Vegetable crops are very important due to their higher yield potential, low cost of production and higher nutritional value being the added attributes. Vegetables are comparatively rich source of vitamins and minerals, which are essential for the maintenance of good health and resistance against diseases. Due to progressive development in the country, the level of nutrition and demand for a variety of food are increasing but the productivity level is not increasing accordingly. The main reasons for low yield are poor quality seed, low yielding cultivars, inadequate plant protection measures and un-awareness of vegetable growers about modern production technologies.

The term agricultural Marketing is composed of two words – Agriculture and Marketing: Agriculture, in the broadest sense, means activities aimed at the use of natural resources for human welfare, i.e., it includes all the primary activities of production. But, generally, it is used to mean growing crops. Marketing connotes a series of activities involved in moving the goods from the point of production to the point of consumption. It includes all activities involved in the creation of time, place, form and possession utility.

1.1 Historical Perspective:

Kaveri Dam (First – Second Century BC) is one of the oldest Water regulation structures in the world still in use. Barley and wheat cultivation along with the domestication of cattle, primarily sheep and goat was visible in Mehrgarh by 8000 – 6000 B.C. Plants and animals considered essential to their survival by the Indians came to be worshiped and venerated by 600 B.C. Storage granaries were also seen in ancient period. According to the historian, Zaheer Baber (1996), the cotton industry was well developed in the Indus valley civilization and cotton spinning and fabrication continued to be practiced till the modern Industrialization of India. The fruits like mango and muskmelon are native to the Indian subcontinent. Sophisticated irrigation and water storage systems were developed by the Indus Valley Civilization. Cultivation of wide range of cereals, vegetables and fruits are described in the later Vedic texts (1000 – 500 B.C). In this period, meat and milk products were part of the diet and irrigation was practiced. According to Indika written by Megastanese, India has many huge mountains which about in fruit-trees of every kind and mentioned about two monsoons in a year. Water storage systems especially a dam built on river Kaveri during this period, is considered as one of the oldest water regulation structures in the world still in use during the 1st and 2nd century B.C. Irrigation
channels were extensively used in the middle ages and it affected the economy of other regions of the world under Islamic patronage. Land management was particularly strong during the regime of Akbar and thereby Indian crops – such as cotton, sugar and citric fruits – spread visibly throughout North Africa, Spain and Middle East. During the period of European adventures, vegetables were cultivated mainly in the vicinity of towns. New species of fruit, such as the pineapple, papaya and cashew nut were introduced by the Portuguese and the quality of mango and citrus fruits were greatly improved. In the modern period, water management systems were also developed with an aim of providing uniform growth. Due to extensive irrigation by canal networks, the land under cultivation and agricultural production was expanded at an average rate of about one percent per year by the later 19th century and Punjab, Narmada valley and Andhra Pradesh became centers of agrarian reforms. Due to famine conditions occurred in the interwar period (1918 – 1939) - Agricultural prices of some commodities rose to about three times. As soon India became the Independent, Land reclamation, land development, mechanization, electrification, and use of chemicals – fertilizers in particular under the five year plans in Indian subcontinent. Tremendous growth was registered from 1960s onwards and many production revolutions initiated included Green Revolution, Yellow Revolution, Operation Flood, Blue Revolution and the newer innovations of Agro-processing and Bio-technology was introduced under economic reforms of 1991. Due to the growth and prosperity that followed India’s economic reforms a strong middle class emerged as the main consumer of fruits, dairy, fish, meat and vegetables. The consumption of fruits increased by 553%, vegetables by 167%, dairy products by 105% and non-vegetarian products by 85% in India’s rural areas alone and agricultural exports continued to grow at well over 10.1% annually. Since independence, India has become one of the largest producers of fruits and vegetables along with many more items like wheat, edible oil, potato, spices, rubber, tea, fishing in the world.

1.2 Agricultural Initiatives under Post Reform Period (1991 onwards):

Rural India presented a picture of mass poverty and widespread unemployment and under-employment was due to feudal land relations, primitive technology, and the resultant low productivity per hectare on the eve of Independence in 1947. Therefore, the Government initiated the growth process in terms of technological and institutional changes. For the last six decades some notable developments have been taken place – large areas which suffered from repeated
failures of rainfall have received irrigation, new crops have come to occupy a significant role in the country’s production and trade, agriculture and the industrial sector exerts a powerful influence on one another, problems of rural indebtedness and the exploitative practices of the village moneylenders are much less. Although, there has been a loss of dynamism in the agriculture was taken place in recent years – a gradual degradation of natural resources through overuse and inappropriate use of chemical fertilizers has affected the soil quality resulting in stagnation in the yield levels. Eleventh Five Year Plan (2007 – 2012) has also expressed concern on deceleration in agricultural growth which is the root cause of rural distress. Some of the elements are: doubling the rate of growth of irrigated area; improving water management; focus on soil quality; bridging the knowledge gap through effective extension; diversifying into high value outputs, fruits, vegetables, flowers; providing easy access to credit at affordable rates; improving the incentive structure and functioning of markets.

1.3 AGRICULTURAL INPUTS AND SERVICES:

A draft seeds Bill – 2003 provides for compulsory registration of seeds on the basis of their performance, deregulation / decontrol of seed industry / processing units and imposition of more stringent penalties to check the sale of spurious seeds. Seed of privately developed varieties will be allowed to be exported except in national emergency and imports of seeds and planting materials are also allowed subject to the new policy on seed development – 1988 and the provisions of the EXIM Policy – 2002-07. According to the Planning Commission Report, by resulting this, the share of seed production in the private sector was increased from 49.11 per cent to 57.75 per cent whereas public sector share in seed production was reduced from 50.59 per cent to 42.25 per cent during 2004 - 2006\(^1\).

Plant Quarantine Order – 2003 made adequate provisions to prevent the introduction of exotic pests, diseases and weeds into India and thereby the Integrated Pest Management (IPM), which is economically and ecologically safe, has been encouraged.

Soil testing facilities and soil test based recommendations to farmers was promoted to promote integrated Nutrient Management (INM) through judicious use of

\(^1\) Government of India, Planning Commission, Eleventh Five Year Plan (2007-12), Volume II, p.17
chemical fertilisers, including secondary and micro nutrients in conjunction with organic manures and bio-fertilizers for improving soil health and its productivity.

Directives to banks to double farm credit has been issued in 2004, grant of farm credit up to Rest. 3 lakh at 7% rate of interest and loan waiver scheme announced in the 2008-09 union budgets. Due to the failure of conventional banking in reaching the hitherto unreached poor population, all the major credit institutions, viz., commercial banks, co-operative banks, regional rural banks along with Non-Governmental Organizations have been associated with the micro-finance programme. Over the years the SHG Bank linkage programme has emerged as the major micro finance programme in the country.

1.4 Agriculture Marketing:

Agriculture Marketing has passed through various stages of development. Historical evidence points out to the shift from mobile trade by peddlers or caravans and then to the establishment of periodic markets called ‘Haats’ or ‘Shandies’. These Haats / Shandies were a multi-purpose institution which served both social and economic needs of the people of that area and having highly representative feature of Indian Social structure in which social needs have been traditionally linked with economic needs besides playing a very vital role in the life of people. Consequently, upon the change of agricultural production scenario from the level of village self-sufficiency to that of surplus commercial farming, many market centres, ‘mandies’ and ‘gunj’ spontaneously camp up during nineteenth century at convenient points, where transport and communication facilities were available. Each market centre initiated and developed its own trade practices and code of business. A number of functionaries and middlemen cam into existence and they fully exploited the ignorance and weak bargaining position of the producers.

The anxiety of the British rulers to make available supplies of pure cotton to the textile mills at Manchester originally motivated the desire for improving and regulating the marketing functionaries at the level of Mandies. This was an imported policy from Great Britain. Karanja was the first regulated market to be established in 1886 under the Hyderabad Residency order. Subsequently, a special law known as ‘the cotton and grain market law’ was enacted at Berar, then known as ‘the Hyderabad assigned district’, in 1897. This institution of regulated market then came into existence, Having due regard to the socio-economic conditions prevailing in the country, this type of reform at the primary level of marketing was first recognized for
general adoption by the central cotton committee appointed by the Government of India in 1918. Lord Linlithgow who presided over the committee in 1922 to look into British Agricultural Markets, when he became Viceroy of India and headed the Royal Commission on agriculture in 1928 had given preference to enact the same in India.

The Royal Commission on agriculture in 1928 recognized the problem faced by the growers in efficient marketing of their produce and recommended for the establishment of regulated markets on the Berar pattern as modified by the Bombay Cotton Market Act, 1927. This recommendation has salutary effect on the states as borne out from the fact that a number of states have enacted regulated markets thereafter. Hyderabad was the first state in India to pass Agriculture Produce Market Act in 1930. Though the regulation and management of agricultural produce markets is a state subject, the Directorate of Marketing and Inspection, as a central advisory organisation has been providing technical assistance and advice to the states in framing suitable market legislation through its model bill prepared in 1938.

The chief aim of the regulated markets was to improve the efficiency of existing marketing system through the protection of producer-seller interests, eradication of the prevalent large scale malpractices such as unauthorized market charges, allowances and deductions, charities, faulty weights and measures, irregular method of trade, delay in payments and inadequate procedure for settlement of market disputes. This provided the better bargaining power to the farming community to secure their due and legitimate share while marketing of agricultural commodities and enforced discipline among trading community and other functionaries.

With a view of regulating these markets, market committees were constituted as the corporate bodies under the respective acts to manage the regulated markets, enforce legal provisions and provide facilities and amenities for orderly marketing.

The necessary infrastructure facilities like Godowns, auction platform, auction shed and Rest house for riots, internal roads, public toilets, drinking water, lighting, security, office building etc. were provided by the marketing committee. The produce is sold in the market yard either by open auction or by chit tender system by the market committee by way of creating competition among buyers to fetch a higher price in transaction.

1.5 Differences in Marketing of Agricultural and Manufactured Goods:

The marketing of the agricultural commodities is different from that of the manufactured goods because unlike the manufactured goods, the agricultural
commodities can not be preserved and stored for a long time. Because of these characteristics, the subject of agricultural marketing has been treated as a separate discipline and this fact makes the subject somewhat complicated. These special characteristics of the agricultural sector affect the supply and demand of manufactured goods. The special characteristics, which the agricultural sector possesses and which are different from those of the manufactured sector, are:

1.5.1 Perishability of the Product:

By nature, farm products are perishable; but the period of their perishability varies from a few hours to a few months. Their perishability makes it almost impossible for producers to fix the reserve price for their farm grown products. The supply of agricultural products is irregular; the price of the crop therefore fluctuates both during the year and from year to year. The extent of perishability of farm products may be reduced by the processing function; but they cannot be made non-perishable like manufactured products. Nor can their supply be made regular.

1.5.2 Seasonality of the Production:

Farm products are produced in a particular season; they cannot be produced throughout the year; as such prices rule low during harvest. Unlike this, the prices of manufactured products remain the same because the supply of the same can be adjusted or made uniform throughout the year.

1.5.3 Bulkiness of the Products:

The characteristic of bulkiness of the most farm products makes their transportation and storage difficult and expensive. This fact also restricts the location of production to somewhere near the place of consumption or processing. The price spread in bulky products is higher because of the higher cost of transportation, handling and storage.

1.5.4 Variation in Quality of Products:

It is observed that, there is a large variation in the quality of agricultural products, which necessitated their grading and standardization somewhat difficult. His sort of problem has not been faced in the case of manufactured goods, for they are products of uniform quality.

1.5.5. Irregular supply of Agriculture Produce:

The supply of agricultural products is uncertain and irregular because of the dependence of agricultural production on natural conditions. With the varying supply,
the demand remaining almost constant, the prices of agricultural products fluctuate substantially.

1.5.6. Small size of Holdings and Scattered Production:

Farm products are produced throughout the length and breadth of the country and most of the producers are of small size. This makes the estimation of supply difficult and creates problems in marketing.

Apart from the problem in estimation of total supply in small farm agriculture, an individual farmer faces a typical marketing situation. As his share in total supply is very small, he cannot influence the market supply. It is in this context that an individual farmer is supposed to be operating in buyer’s market.

1.5.7. Processing:

Most of the farm products need some kind of processing before their consumption by the ultimate consumers. This processing function increases the price spread of agricultural commodities. Processing firms enjoy the advantage of monopsony, oligopsony duopsony in the market. This situation sometimes creates disincentives for the producers and may have an adverse effect on production in the next year.

1.6 PRESENT STUDY:

Since Rythu Bazaars is relatively a new and recent trend observed in Andhra Pradesh, there is no sufficient number of research studies. Hence review of literature on the topic is seriously constrained. It is for this reason; a few studies relating to Agricultural Products Marketing that has been initiated and patronized by some State Governments in the Indian Union have been briefly sketched hereunder.

1.6.1. Apni Mandi / Kisan Mandi:

The first Apni Mandi was started in Punjab by the Punjab Mandi Board at Chandigarh in February, 1987. Punjab Mandi Board took the initiative with a view to providing small farmers around cities a direct access to consumers. Similarly, in Haryana, the first Apni Mandi was started at Karnal in 1988. These, Apni Mandi are similar to the Saturday markets of United Kingdom and United States of America.

1.6.2. Hadaspar Vegetable Market

Hadaspar Vegetable Market is model market for direct marketing of vegetables in Pune city. This sub-market yard is situated nine KMs away from Pune City. This is one of the ideal markets in the country for marketing of vegetables.
1.6.3. Uzhavar Shandies:

Uzhavar Shandies (Farmer’s Market) were established in selected municipal and panchayat areas of the Tamil Nadu by the state government. In these markets, farmers enjoy better marketing infrastructure free of cost and also receive considerably high prices for the products than what they used to receive from middlemen at village or primary markets of towns.

1.6.4. Shetkari Bazaars:

Shetkari Bazaars were established in the state of Maharastra for the marketing of fruits and vegetables. The Shetkari Bazaar, by eliminating intermediaries, links producers direct to the consumers, reduces price spread (marketing margin of intermediaries) and enhances producer’s share in consumer’s rupee.

1.6.5. Krushak Bazaars:

Government of Orissa has taken a programme of establishing Krushak Bazaars in the state of Orissa in the year 2000-01 with the purpose to empower farmer – producer to compete effectively in the open market to get a remunerative price for his produce and to ensure products at affordable prices to the consumers.

1.6.6. Mother Dairy Boards:

Mother Dairy Booths, basically handling milk in Delhi, was asked to try its hand in retail vegetable marketing by direct purchasing vegetables from the farmers, moving them in specially built vehicles, storing them in air conditioned godowns and distribute them to the consumers through its retail outlets in 1989 after the notorious onion and potato price crisis. Mother Dairy management has opened retail outlets in almost all important colonies of Delhi for providing vegetables to the consumers at reasonable prices.

1.7 CONCEPT OF RYTHU BAZAR:

Andhra Pradesh is the second largest producer of fruits, vegetables and flowers in the Country. The predominantly grown fruit crops are mango, banana, cashewnut, sapota, guava and pomegranate. Brinjal, lady’s finger, onions, tomatoes, beans and gourds are the major vegetables produced in the State. Regulated Market Yards for fruits and vegetables are functioning only at few centres in the State. The Marketing system for fruits and vegetables is in the hands of middlemen. Middlemen exist at various levels between the farmer and the consumer and exploit through malpractices in weighments, handling and payments. The farmer's share in the consumer's rupee is estimated to be just 40 paisa. In addition the estimated losses in
handling of vegetables in the traditional channel of marketing are about 30 to 35%. Large numbers of small farmers are unable to effectively bargain for a better price in the wholesale markets. Inefficiencies in wholesale markets result in a long chain of intermediaries, multiple handling, and loss in quality and increase the gap between producer and consumer prices. Intermediaries and system inefficiencies consume a disproportionate share of consumer prices. Large number of small retailers, each handling small quantities, create high overheads leading to high margins on produce. Rythu Bazaars will operate outside the purview of Agricultural Marketing Committees to be managed by Estate Officers and under the control of Joint Collectors. It was therefore felt necessary to evolve an alternate marketing strategy where both growers and consumers are benefited through Rythu Bazaars. Rythu Bazaars are thus planned for direct interface between the farmers and the consumers eliminating middlemen. Rythu Bazaars, if function effectively, can act as price stabilisation centres.

1.7.1. OBJECTIVES:

The objectives were set out by the Rythu Bazaar Department to achieve the goal of reducing gap between real farmers and consumers:

- To ensure remunerative prices to the farmers and provide fresh vegetables to consumers at reasonable rates fixed everyday.
- To facilitate prompt realization of sale proceeds to farmers without any deductions.
- To Curb malpractices in weighments and provide vegetables with correct weighments to consumers.
- Provide direct interface between farmers and consumers eliminating intermediaries in trade.

1.7.2. LOCATION OF RYTHU BAZARS:

Rythu Bazaars are located on Government lands identified by the District Collectors. The location shall have to be convenient both for the farmers and consumers. The criteria for opening of new Rythu Bazaars are the availability of at least one acre of land in strategic locations, and identification of 250 vegetable growing farmers including 10 groups.

1.7.3. INFRASTRUCTURE FACILITIES:

Required infrastructure is provided in all Rythu Bazaars with funds of Agricultural Market Committees. The temporary structures in Rythu Bazaars are replaced by semi
permanent structures to provide adequate protection against sun/rain to the producers and the users alike.

The Rythu Bazaars shall have to ensure:

- Adequate number of Sheds for farmers to sell their produce.
- Adequate arrangements for supply of drinking water.
- Toilet facilities with proper sanitation.
- Proper arrangements for parking of vehicles.
- Arrangements for removal of garbage and cleaning the Market by local body.
- Facilities for storage of unsold produce like Zero Energy Cool chambers.
- Weighing scales should be provided to all the farmers with proper arrangements for issue and collection.

1.7.4. IDENTIFICATION OF FARMERS/VILLAGES.

Proper Identification of a cluster of villages and genuine farmers and their marketing linkage to Rythu Bazaars is key to the successful functioning of a Rythu Bazaar.

1.7.5. VILLAGES:

It is desirable to identify the farmers from a cluster of 10-15 predominantly vegetable growing villages to enable provision of horticulture services, inputs and transportation arrangements to the Rythu Bazaars effectively. Horticulture Department may identify such clusters immediately for all the Rythu Bazaars.

1.7.6. FARMERS:

Identification of farmers shall be done jointly by a team consisting of:

(1) M.R.O.
(2) Horticulture Officer/Consultant
(3) Agricultural Officer, in the villages.

In the absence of Horticultural Officer/Consultant services of Assistant Director, Agriculture may be utilised. The team should finalise the schedule of visits to the villages and publicise it adequately among the vegetable growing farmers. As per the schedule the team should visit the villages and convene a meeting of vegetable growing farmers. In the meeting they should explain about the advantages of the Rythu Bazaars to the farmers through provision of

a) Horticultural services
b) Seed supply at subsidized rates

c) Transportation arrangements

d) Price mechanism

e) Elimination of middlemen to motivate them to reap the benefits.

After the meeting, the team should visit fields of the willing farmers and issue temporary identity cards on the spot. Temporary identity cards issued should be replaced by laminated photo identity cards within a week. Tenants may also be given identity cards on field verification. Farmers may be formed into groups as per their choice. It may be explained to them that each group can send one or more members on rotation for sale of vegetables in Rythu Bazaars. They may also be extended the benefits given to the Self Help Groups by the government.

1.7.7. ISSUE OF PHOTO IDENTITY CARDS:

Identity cards should contain the following details:

- Name of the farmer
- Address
- Extent of land
- Vegetables grown
- Photograph of farmer/ farmer with his family members/and/ or farm servant
- In case of farmers groups, photograph of the group members.
- Photograph must be attested by M.R.O or Estate Officer.
- Identity Card must be laminated

Register containing the details of the Identity Cards issued shall be maintained at the MROs Office and with Estate Officer and be made available for inspection. Validity of Identity cards shall be six months from the date of issue. Renewal of the Identity cards shall be completed at least 15 days before expiry.

1.7.8. ALLOTMENT OF SHOPS TO FARMERS BY ESTATE OFFICER

Only the farmers/groups with valid photo identity cards should be allowed to sell in Rythu Bazaar. The Daily allotment of shops shall be on First Come First Serve basis on rotation. No one shall be allowed to occupy the same shop continuously. Farmers shall not be allowed to reserve the shop by keeping vegetables in the night.

1.7.9. PREVENTING THE ENTRY OF MIDDLEMEN

Adequate participation of farmers is the best way to prevent the entry of middlemen. The entry of middlemen (retailers / wholesalers) defeats the purpose of setting of Rythu Bazaars. No seller shall be allowed to enter into Rythu Bazaar
without valid photo identity card. If any farmer comes to Rythu Bazaar without any identity card, he should be directed to Horticulture Consultant or M.R.O. for obtaining the identity card. The bogus identity cards shall be cancelled immediately. Farmers should be allowed to sell the vegetables grown by them only. Proper selection of Self-Help Groups should be done by the Estate Officer. Self-help Groups to sell only those vegetables which are not grown in the District and other essential commodities supplied by the Government Agencies. Deterrent action against the persons responsible for issuing cards to ineligible persons should be done by the competent authority. Estate Officer will be held responsible for allowing persons without proper identity cards. Frequent surprise inspections by Joint Collector and others and leaving their remarks in the inspection register without fail.

1.7.10. TRANSPORT ARRANGEMENTS:

Joint Collectors have to ensure adequate transport arrangement in consultation with APSRTC after ascertaining specific requirement from the estate officers and farmers. This may be reviewed once in 15 days.

1.7.11. SANITATION:

The premises should be kept neat and clean. Removal of garbage, cleaning the market, maintenance of toilets may be entrusted to the local body, private agency, or Self-help Group. Required funds for the above may be met from the income generated through auction of parking space, canteen, etc. Farmers and Self Help Groups should clean the space allotted to them and put the garbage at the places specified. Funds allotted to Rythu Bazaars wherever necessary may be utilised for proper sanitation in the market.

1.7.12. PRICE FIXATION:

The price fixation in Rythu Bazaars shall be through a committee of farmers and the Estate Officer. Adequate care should be taken to fix the prices realistically. If the prices in Rythu Bazaars are higher than the local market rate, there is no incentive to consumers. And if the prices fixed are lower than the wholesale market rates there is no incentives to farmers. The prices generally in Rythu Bazaars shall have to be 25% above the wholesale rates and 25% less than the local retail price. Marketing Department shall provide the wholesale prices to Estate Officer for realistic price fixation. Estate Officer should also make his efforts to obtain the wholesale and retail prices. Whenever Marketing Department is not able to provide wholesale prices by 6.00 A.M in the morning, previous day's wholesale price may be used. For the
different varieties (clearly distinguishable) of the same vegetable, different sale price may be fixed. The Estate Officers shall ensure that prices are displayed prominently at strategic locations. The Estate Officers shall ensure strict enforcement of prices fixed. All disputes relating to sale of vegetables shall be resolved by the Estate Officers.

1.7.13. LEASE OF STRUCTURES / PARKING SPACE:
Rythu Bazaars should generate sufficient income for maintenance through auction of parking space, canteen etc. Joint Collector is the competent authority for finalisation of auction. The money realised by way of auction shall be credited to Rythu Bazaar funds and the funds can be used for the purpose of:

1. Sanitation.
2. Drinking water facilities.
3. Purchase and repairs of weighing scales, and maintenance of Rythu Bazaars.

The Estate officers shall maintain proper accounts / cash books etc.

1.7.14. DUTIES OF THE ESTATE OFFICERS:
The Estate Officers are responsible for:

- Upkeep and maintenance of Rythu Bazaars.
- Daily allotment of space on First Come First Serve (FCFS) basis.
- Provision of weighing scales to farmers daily and collecting them back in the evening.
- Formation of price fixation committees.
- Convening of the price fixation committee meetings everyday morning for realistic price fixation.
- Price fixation.
- Ensure sales at the prices fixed.
- Conducting a meeting of all farmers once in a week to assess the functioning and to take course corrections and send the minutes to Joint Collector and Director of Marketing.
- Prominent display of prices at strategic points.
- Use of public address system for announcement of prices.
- Prevention of entry of middlemen.
- Cleanliness / sanitation.
- Proper supply of power and water.
- Proper transport facilities to farmers.
- Proper recording of daily arrivals and sales.
• Prompt furnishing of returns and reports to the Joint Collectors / Director of Marketing.
• Encourage sale of vegetables not grown locally by the Self-Help Groups.
• Ensure that the farmers sell vegetables mentioned in the identity card.
• Co-ordinate with Horticulture officers / consultants in timely distribution of seed material / inputs to promote Horticulture production.
• Prevent entry of antisocial elements especially in the nights.
• Proper maintenance of Accounts and inspection Register.
• Settle disputes arising on account of quality, price etc between sellers and purchasers.
• Lease of space for parking / canteen etc and realisation of lease amounts.
• Organise proper watch and ward.
• Prompt action on adverse news items relating to Rythu Bazaars.
• Problems of transportation, middlemen, requirement of additional infrastructure and other problems may be taken to the notice of Joint Collectors as and when necessary.

1.7.15. ROLE OF HORTICULTURAL CONSULTANTS:

Adequate participation of farmers is sine-qua-non for the successful functioning of Rythu Bazaars and this is the primary responsibility of Horticultural Consultant. Therefore, Horticulture Consultant should motivate, identify and ensure regular attendance of vegetable growers to reap the benefits of Rythu Bazaars. Visiting Rythu Bazaars regularly and assess the daily requirement of vegetables. Based on the requirements, action plan should be prepared for production and regular supply of vegetables by identifying required number of farmers. Regular visits to identified villages and providing pre/post harvest consultancy to the identified farmers. Timely supply of quality seeds at subsidised prices to the farmers. To guide the farmers in production of off-season vegetables. To organise training to vegetable growers. To maintain farmer-wise, village-wise, Mandal-wise area under different vegetables and varieties and quantities produced and sold in Rythu Bazaars. Assist the Estate Officer in managing Rythu Bazaar. To interact and coordinate with personnel of Agriculture, Horticulture and Marketing departments. To maintain tour diary and submit monthly diaries to Estate Officer, Assistant Director of Horticulture and Joint Collector. Assistant Director of Horticulture/Deputy Director of Horticulture shall send a fortnightly report after inspection(s) in the prescribed proforma to commissioner Horticulture, Director of Marketing and Joint Collector.
1.7.16. ROLE OF AGRICULTURE OFFICERS:


1.7.17. ARRANGEMENTS FOR SALE OF VEGETABLES NOT GROWN LOCALLY.

Vegetables grown within the district to be sold only by the farmers. Rythu Bazaars have to ensure availability of all vegetables whether grown locally or not. The import and sale of vegetables not grown locally or not grown in that season may be organised through self help groups. Self help groups shall not be allowed to sell the vegetables grown within the district. District administration should assist the self help groups in procuring vegetables through proper tie ups. The daily return of transactions at all Rythu Bazaar are made available through computer network to aid decision making in the transport of vegetables from the low price areas.

1.7.18. SALE OF ESSENTIAL COMMODITIES IN RYTHU BAZARS:

All essential commodities except rice may be sold through self help groups. Sale of rice at reasonable prices may be organised through the rice Millers Associations. Sale of essential commodities viz., Rice, Oils, Pulses, Tamarind, Dry chillies and Onions to be organized at all Rythu Bazaars. Govt. agencies (Civil Supplies Corporation, OILFED, and MARKFED) shall sell their commodities through Self Help Groups.

1.7.19. SELF-HELP GROUPS:

Care should be taken to ensure that the Self Help Group functions as a group and not as an individual in the conduct of transactions. They shall sell only those Vegetables not grown in the District. Self Help Groups should be encouraged to sell the vegetables not grown locally and other essential commodities in the Rythu Bazaars. Joint Collector should select Self Help Groups in consultation with PD, DRDA and Municipal Commissioner based on group activity, savings amount in the bank and their willingness to work for lower profit margins. Selected groups should function with active participation of all the members of the group and not by one or two individuals.
1.7.20 MAINTENANCE OF REGISTERS/RECORDS.

The Estate Officers shall ensure proper maintenance of Registers/Records Reports and inspection register. Furnish daily reports of transactions as per format appended before 11.00 A.M. Furnish weekly returns of transactions as per proforma on every Friday. Report fortnightly on 1\textsuperscript{st} and 16\textsuperscript{th} of every month particular of as per proforma as check memo on Rythu Bazaar. Maintain the following Registers as per the format appended

- Register of inspections
- Register of Farmers
- Register of Dead stock
- Register of Self-help Groups.
- Accounts Register.

1.7.21. CONSTRUCTION OF PERMANENT RYTHU BAZARS:

Keeping in view the present and future requirements and the response from the farmers and consumers, permanent Rythu Bazaars are planned at all the centres. An area of 1.00 acre is essential for construction of Rythu Bazaars. Construction of permanent Rythu Bazaars is entrusted to APIIC for speedier execution. The permanent Rythu Bazaars shall be occupied as and when execution is completed.

1.7.22. COMMUNICATION FACILITIES:

Telephone, Fax and Computers should be installed in all Rythu Bazaars. The Estate Officers shall use the above for prompt submission of returns and receipt of information for better management. Networking of all Rythu Bazaars enable Estate Officers in realistic price fixation and helps the farmers, Self Help Groups in taking advantage of the prevailing prices in different markets.

1.7.23 TRAINING:

Commissioner, Horticulture and Director of Marketing shall organise training programs at periodic intervals for Estate Officers and Horticulture Consultants.

1.7.24. ROLE OF JOINT COLLECTORS:

Joint Collectors are responsible for the effective functioning of Rythu Bazaars in the district. The Joint Collectors shall hold periodical meetings with farmers/ Consumers and take corrective measures.

- Appointment of Estate Officers and Horticulture Consultants.
- Holding weekly meetings with Estate Officers.
- Inspection of at least one Rythu Bazaar every week.
- Coordinate with APSRTC officials for adequate transport arrangements.

Ensure proper co-ordination of Agriculture, Horticulture, Revenue, Marketing, Transport and Local Bodies for the smooth functioning of the Rythu Bazaar.

1.8. **Definition of ‘Marketing’:**

Larson, A.L - 1957\(^2\) in his book “Agricultural Marketing” defined the term market has got a variety of meanings. In some cases the market may mean the place where buying and selling takes place, an arena in which a good is sold, a group of people carrying on buying or selling, or the commodity traded, such as the corn / time market.

Mendoza, G - 1995\(^3\) in his book “A Premier on Marketing Channels and Margins” defined the term market that it has an intrinsic productive value, in that it adds time, form, place and possession utilities to products and commodities. Through the technical functions of storage, processing and transportation and through exchange, marketing increases consumer satisfaction from any given quantity of output.

1.9 **Definition of ‘Agricultural Marketing’:**

According to the FAO (1986)\(^4\) in its book “Marketing improvement in the developing world – Marketing and Credit Service” Food and Agricultural Marketing not only means the movement of agricultural produce from the farm where it is produced to the consumer or manufacturer but also includes the marketing of production supplies to farmers like fertilizers, pesticides, chemicals, machinery, animal feed, tools and equipments.

Branson, R and D G Norvell, 1983\(^5\) – In his book “Introduction to Agricultural Marketing” Agricultural Marketing covers all the activities associated with the Agricultural Production and Food, Feed and Fiber assembly, processing and distribution of final consumers, including analysis of consumers’ needs, motivations and purchasing and consumption behaviour.

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\(^4\) FAO (Food & Agriculture Orgnisation), 1986 – Marketing improvement in the Developing World: Marketing and Credit Service - Rome, Italy.

1.10 REVIEW OF LITERATURE:

Abdulquadri A.F. and Mahammed B.T (2011)\textsuperscript{6} wrote an article on “The Roles of Agriculture Cooperatives in Agricultural Mechanisation in Negeria”. In his paper, he critically examined the relevance and contribution of agricultural mechanisation to the development of the agricultural sector of the economy. He also emphasised on benefits of credit for agricultural mechanisation, the roles of cooperatives in agricultural mechanisation. He suggested that credit facilities through agricultural cooperative should attract lower interest rate of at least 2 – 3 per cent and financial institutions should provide friendly customer service such as reducing bureaucratic bottlenecks and transaction costs.

Amita Shah (2011)\textsuperscript{7} opine that the supporters of liberalisation often argue that if the modern food retail sector is allowed a full round of liberalisation, it may have various positive outcomes, including a reduction in prices. He raises a counter question, what if the markets, as it happens in several instances, fail to deliver on account of the structural snags that may continue to persist in a rapidly growing and yet highly segmented economy?

Balakrishnan and Ramaswamy (2000)\textsuperscript{8} suggested that infrastructure facilities like canteen, parking facility, pleasant atmosphere like neat and clean environment, absence of middlemen, remunerative prices and free transportation facility will attract the farmers to market their product.

B. Savitha (2003)\textsuperscript{9} in her Opinion of Farmers about Functioning of Rythu Bazaars revealed that farmers were satisfied with the issue of ID Cards, facilities provided, price fixing mechanism, supervision of RBs by officials, utilisation of Rythu Bazaar funds. In her study farmers also expressed that absence of commission and remunerative prices are main advantages of Rythu Bazaars.


\textsuperscript{7} Amita Shah. Retail Chains for Agro/Food Products: Inclusive or Elusive? Economic and Political Weekly, Issue: VOL 46 No. 33 August 13 - August 19, 2011


Dr. Kishor Moharir ( )\textsuperscript{10} had written an article on Role and Progress of Cooperative Societies in Agriculture Product Marketing in Maharastra. The author conferred multifarious advantages on the farmers such as less prone to exploitation and malpractices, provides credit, giving better prices by providing storage facilities, protects from rains, rodents and thefts, possibility of bulk transport of agriculture produce. The author suggested that there is a need to set up central committee for education and training, necessary financial and technical assistance has to be provided, integration of agricultural processing, credit and marketing activities can improve the role and performance of cooperative societies.

Dhruv Grewal et al, (2009)\textsuperscript{11} contend that survival in today's economic climate and competitive retail environment requires more than just low prices and innovative products. To compete effectively, businesses must focus on the customer's shopping experience.

Gandhi and Namboodiri (2002)\textsuperscript{12} reported that small holders though make a sizeable contribution to high value food production (fruits and vegetables), their access to market is constrained by scale. Their marketable surplus is small while local markets for high value commodities are thin and sale in distant urban markets raises transportation and marketing costs. Existing supply chains are long and are dominated by a number of intermediaries like assemblers, wholesalers, sub-wholesalers, commission agents and retailers. The high percentage of margin to farmer – consumer price difference is indicative of large inefficiencies and relatively poor marketing efficiency.

H.S. Malik. S.D. Chamola & C.R. Kaushik (2004)\textsuperscript{13} in his work Functioning and Performance of ‘Apni Mandi’ Punchkula (Haryana) revealed that the Producers and Consumer’s interest is safeguarded in Apni-Mandi by fixing prices and keeping strict watch on quality, overcharges and under weight etc., and by penalizing the defaulters. They also concluded that the highest number of sellers and consumers were on Thursday mandi and lowest on Friday. The pattern of arrivals was found directly related to the number of sellers and consumers on mandi days. The price


\textsuperscript{13}
variation was found higher in more perishable vegetables like tomato and peas whereas it was lower in case of less perishable vegetables such as potato and carrot. Further they inferred from the analysis that the income and expenditure ratio was 1:4.63, which indicates that the Apni Mandi is an economically viable enterprise for market committees in Haryana State.

**Jain (2004)**\(^{14}\) observed that the farm gate prices for vegetables and fruits range between 20 – 30 per cent of the eventual retail prices in India. In developed countries such as USA, UK and Japan, the farm gate prices for such products range between 40 – 55 per cent of retail prices.

**Jairath (2005)**\(^{15}\) reported that the share of specialised markets like fruits and vegetables in total regulated market is low. Only few states have separate fruits and vegetable wholesale regulated markets. There availability is not even one per thousand sq.km area. Even the horticultural states which account for nearly 20 per cent of fruits and vegetable production does not have regulated market per hundred sq.km area.

**John L.Adrian, Jr., and Thomas Wade Green (2001)**\(^{16}\) had emphasised that a competent, knowledgeable Manager will serve as an integral link in the implementation of business practices to make future cooperatives viable and efficient businesses that effectively serve member needs. According to them, division of responsibility between management and the board of directors and business decision making in the areas of financial analysis are the major critical tasks to the Managers which are helpful in the success of the cooperatives. The study suggested that Managers’ knowledge / capabilities in the areas of cooperative principles, division of responsibility between managers and board of directors and financial analysis is to be strengthened.

**K.S.Birari, D.S.Navadkar and J.T.Dorgi (2004)**\(^{17}\) in his article Marketing of Efficiency of Cole Vegetables in Western Maharashtra revealed that marketing efficiency depends on performance of the markets intermediaries, which in turn

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\(^{14}\) Jain RK (2004), Agricultural Marketing Situation in India: Problems and Prospects.

\(^{15}\) Jairath, MS and NL Agarwal (2005), Marketing of Medical and Aromatic Plants in Rajasthan, National Consultative Workshop on Medicinal and Aromatic Plants, held at GB Pant University and Agricultural and Technology, Pantnagar, 25 – 27 June, PP. 28 – 36.


reflects competitiveness of the marketing system. They identified as the marketing efficiency indices for cabbage, cauliflower were less than one hundred during all the season, that indicated that the produce of these vegetables were not marketed efficiently during all the seasons. They further suggested that it is necessary to minimise the number of intermediaries between actual buyers and sellers due to perishable nature of vegetables, it needs to be moved faster from producer to consumer with due efficiency.

**Manju Malik (2012)**, attempts to determine the perception of service quality of organized retail stores and their satisfaction among 500 respondents from organized retail outlets selected from Haryana, and across various dimensions such as Product aspects, Price aspect, Physical aspect, Promotional schemes, and Personnel Interaction and After Sales Services. Across the sub-dimensions of service quality of organized retail stores, the respondents' level of perception and satisfaction in terms of Product aspects, Price aspect, Physical aspect, Promotional schemes, Personnel Interaction and after sales services was "good".

**M. Chibanda, GF Ortmann and MC Lyne (Sept., 2009)** had written Institutional and Governance factors influencing the performance of selected (10) smallholder agricultural cooperatives in Kwazulu-Natal. They found that the selected smallholder cooperatives is influenced by institutional and Governance problems. Institutional problems are low levels of equity and debt capital, reliance government funding, low levels of investment and subsequent loss of members. Governance factors are absence of secret ballot, low levels of education, lack of production and management skills, weak marketing arrangements and low returns to the members. The authors suggested that the alternative ownership structures such as close corporations and private companies offer better institutional arrangements and opportunities for equity sharing partnership.

**Nityanand Singh and Prachee Javadekar (2011)** observe that the supply-chain management of perishable food products is a very typical issue, which is to be

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18 Manju Malik, A Study On Customer’s Satisfaction Towards Service Quality of Organized Retail Stores in Haryana, Indian Journal of Marketing Volume 42, Number 2, February 2012


20 Nityanand Singh, Dr. Prachee Javadekar, “Supply Chain Management of Perishable Food Products: A Strategy to Achieve Competitive Advantage through Knowledge Management”, Indian Journal of Marketing Volume 41 • Number 10 • October 2011
adequately managed to gain the competitive advantage for optimum profit in the current scenario.

**Nurjihan Idris and Amin Mahir Abdullah (2011)** wrote an article on “Evaluation of factors affecting Agricultural Cooperatives Performance in Malaysia”. They described the input and output of the production function that affects the cooperatives. Input side that contributes to sales, which are share capital, farm size, workers salary and energy cost and on the other hand output side, sales in value term are used to describe the performance of cooperatives. According to the authors, labour is an important element in determining cooperative sales. The governance of cooperatives can act on this by allocating some fund on workers’ management to attract more labour. It also showed lack of labour in cooperatives is attributed to the younger generation are losing interest in agricultural cooperatives.

**P. Anandaraj and V. Chinniah (2011)** opine that the area and production of fruits in general and mango, in particular, has increased many folds during the last fifteen years, which brought in many problems with regard to marketing of the fruits. The various marketing facilities necessary for economic disposal of the produce have, however, not been able to keep pace with the fast expanding fruit industry.

**Radhakrishanan and Karthikeyan (2000)** suggested that registered farmers of particular shandi were free from transportation costs, free from entry fee, sufficient storage facilities and balance amount should be incurred for the improvement of the infrastructure facilities in the particular shandi.

**Rangi and Sidhu (1998)** revealed that the major concentration of the board was on the improving the infrastructure facilities in the form of construction of link roads, providing transportation facilities and other activities.

**Rhodes and Dauve (1998)** in their book “The Agricultural Marketing System” mention that the most visible and generally the most costly part of agricultural marketing is the physical functions: transportation, storage and

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22 P. Anandaraj and V. Chinniah A Study of the Marketing Problems Of Mango Growers (Using Factor Analysis) In Madurai District, Tamil Nadu, Indian Journal of Marketing Volume 41 • Number 12 • December 2011


processing. They also mention that the main contribution of farmer groups is to increase demand at farm level rather than to manipulate supplies.

Ruchi Malik (2012) found that though there are multitudinous opportunities that are untapped by the retailers, they can be successful by paying more attention towards their customer needs and desires.

Shankar Gopalakrishnan and Priya Sreenivasa, (2009) cautions that rather than being a panacea for Indian agriculture, corporate food provision will likely accelerate many key elements of India’s agricultural crisis. It will produce a decline in land productivity, reduce food security, adversely affect price stability and will tend to negatively impact employment and credit relations.

Shamsheer Singh and S.K. Chauhan (2004) in his article Marketing of Vegetables in Himachal Pradesh discussed about the marketing efficiency in different marketing channels. They identified that about 70% of vegetables growers who could dispose of 64 to 96 per cent of the total produce through channel III (Producer – Wholesaler / Commission Agent (Local Market) - Retailer - Consumer) itself. They observed that the marketing margin of the wholesalers was the highest (17%) for tomato and the marketing margin of retailer was the highest (19.03%) in case of cauliflower in Channel – III. They identified that this leads to increase in wastage and marketing cost and due to perishable nature of vegetables crop and huge glut during peak season; farmers do not get remunerative prices. Hence they suggested that additional regulated marketing facility, storage facilities as well as a small unit of processing for tomato, cauliflower, peas and lady’s finger needs to be established.

Singh (2007) observed that one of the important measures of marketing efficiency is the share of producer in the price paid by the ultimate consumer-buyer. The study revealed that the farmer-producer of tomato, cabbage, cauliflower and cucumber received less than 50 per cent price paid by the consumer-buyer, the range being 37.26 per cent (tomato) to 49.16 per cent (cauliflower). The share of producer includes the marketing cost which is very high. The decomposition of retail price into

26 Ruchi Malik, To Build A Model For The Determination Of Factors That Result In The Success Of The Organized Retail Sector In India And Analyzing Its Relative Importance (With Reference To Fast Food Chains And Grocery And Vegetable Outlets), Indian Journal of Marketing Volume 42 • Number 2 • February 2012
27 Shankar Gopalakrishnan, Priya Sreenivasa, “Corporate Retail: Dangerous Implications for India’s Economy”, Economic and Political Weekly, Issue : VOL 44 No. 32 August 08 - August 14, 2009
29 Singh, Sukhpal (2007), Agribusiness in South Asia: A Fact Sheet
share of producer and market functionaries revealed that i) grower’s share generally
rises from low priced to high priced vegetables ii) with increased perishability of
vegetables the grower’s share declines iii) the share of retailer is very high, in few
cases even higher than that of producer iv) the marketing cost of vegetables is very
high in hill regions.

Subrahmanyam and Mruthyunjaya (1978)\(^{30}\) observed that the marketing of
fruits and vegetables is associated with a unique set of conditions which makes the
task difficult and highly risky. Firstly, the nature of the produce handled itself,
because of high perishability it is difficult to create time and space utilities. The
second factor in marketing of fruits and vegetables is the prevailing imperfect
competition i.e. there are only few traders in the business. These two factors have a
lot of influence on the current marketing system of other agriculture commodities.

Subrahmanyam (1997)\(^{31}\) observed that despite increase in both number and
capacity, the cooperative sector has not been able to help fruit and vegetable
producers to the extent desired as it accounted for hardly 8 per cent of total capacity
and about 90 per cent of total available capacity is still utilized for storing potato
alone with less than 1 per cent capacity utilized for storing fruits and vegetables. A
cost-effective transport is an important facility required in proper marketing of fruits
and vegetables.

Subrahmanyam (2002)\(^{32}\) studied the farmers’ share in consumer rupee for
fruits in Punjab. They reported that most of the small and marginal farmers lease out
their orchards to pre-harvest contractors. Producers’ share in the consumer rupee
varied from 25 per cent to about 40 per cent in most of the fruit growers. The pre-
harvest contractors who did not make any fixed investment on the orchards also got
more than the producers’ share. There is no doubt they had to incur some expenses
on the watch and ward of their orchards, picking, packing, transportation of the
produce etc. They also reported that in “Apni Mandi” scheme also the domination
of the traditional fruit and vegetable retailers outnumber the farmers.

\(^{30}\) Subrahmanyam, KV and Mruthyunjaya (1978), Marketing of Fruits and Vegetables around Bangalore: Problems and

\(^{31}\) Subrahmanyam, KV, Mruthyunjaya and V Mohandoss (1997), Institutional Arrangements for Marketing Fruits and
Vegetables – Case Study of the Bangalore Grape Growers, Marketing and processing Co-operative Society Ltd., Bangalore
(Karnataka), Division of Economics and Statistics, Indian Institute of Horticultural Research, Bangalore – 89.

\(^{32}\) Subrahmanyam, KV and M Sudha (2002), “Economics of Establishing an interme diate Fruit Processing Unit: Case Study of
Mango (Bangalore)”, cont.No:74/92, IIHR, Bangalore – 89.
Surabhi Mittal (2007)\textsuperscript{33} observed that the increasing share of high value commodities in the consumption basket of households, higher incomes and urbanisation, changing lifestyles, market integration and trade liberalisation at global level have led to an increase in the demand for horticultural products in India.

Tamra Kirkpatrick Kazmierczak and Daniel B. Taylor (1989)\textsuperscript{34} has written in his article VEGMARC – II: A computerised Record Keeping System for vegetable Marketing Cooperatives that poor Management of the South eastern vegetable marketing cooperatives has been linked to poor record keeping practices. It includes the features like pool price calculations, deduction of packing fees, calculation of grower net returns and printing of reports, checks and mailing labels. The main causes for the failures of these markets include limited access to markets and poor management. Provision of micro computer application software was determined to be one way in which at least three of these services include accurate record keeping, timely market information and improved financial planning accounting tax management.

V. Ramanathan, Dr. K. Hari, (2011)\textsuperscript{35} studies the perception of consumers about both unorganized and organized retailers and finds it keeping on changing dynamically.

Wu-Cheng Liao, Tzong-Ru Lee and Saran Arayarangsarid (2001)\textsuperscript{36} in their article the Comparison of Vegetable Marketing Systems of Urban Cities in Taiwan and Thailand analysed that how the vegetable marketing system works in urban cities in Taiwan and Thailand. According to them, Muangmai Market provides some facilities for sellers and buyers. But in addition to these facilities like A parking area for 50-60 trucks, 4 Security Guards, 5 Cleaning workers, Announcement Tower, and 100 2-wheel carts for carrying products inside the market (belong to individuals) the traders need credit, money clearing, transportation, large scale weighing machines and cool storage services to achieve the marketing efficiency. After harvesting, cleaning and grading are needed. Some wholesalers try to keep their customers by

\textsuperscript{33} Mittal, Surabhi (2007), Can Horticulture be a success story for India? ICRIFR Working Paper No:197, August.


\textsuperscript{35} V. Ramanathan and K. Hari, “A Study On Consumer Perception About Organized Vs Unorganized Retailers At Kanchipuram, Tamil Nadu”, Indian Journal of Marketing Volume 41 • Number 12 • December 2011

giving some discounts, or selling by credit, or pay for transportation costs, if the customers have no trucks. According to them, wholesalers have maintained contracts with local farmers to supply products to them by paying money in advance or giving credit both in cash and kind i.e., fertilizer, seed and plant chemicals etc. According to the authors, some wholesalers who succeed in their business took about 5-10 years. Due to a lack of marketing information about product quantities which rapidly changes all the year, they need time to learn and get experience and to increase efficiency in their business. They suggested that supporting factors such as scale of business, product standardization, grower’s cooperation and market information can improve the marketing systems.

It is concluded from the literature that infrastructure facilities like canteen, parking facility, pleasant atmosphere like neat and clean environment, absence of middlemen, remunerative prices and free transportation facility, less prone to exploitation and malpractices, provides credit, giving better prices by providing storage facilities, protects from rains, rodents and thefts, possibility of bulk transport of agriculture produce will attract the farmers to market their product. Central committee for education and training on cooperative management etc. necessary financial and technical assistant has to be set up to improve the role and performance of Rythu Bazaars. It is also suggested that fixing prices, keeping strict watch on quality, overcharges and under weight etc. and by penalizing the defaulters can be safeguarded the interests of the consumers come to the Rythu Bazaars. It is observed that the price variation was found higher in more perishable vegetables like tomato and peas whereas it was lower in case of less perishable vegetables such as potato and carrot. It is also suggested that a competent and charismatic manager will serve as an integral link in the implementation of business practices to make future Rythu Bazaars viable and efficient businesses that effectively serve member needs. Balance amount should be incurred for the improvement of the infrastructure facilities in the particular Rythu Bazaars and each and every Rythu Bazaar has to mobilize their own resources from the member farmer sellers by providing benefits to the farmers in the form sale their entire produce within stipulated time. Rythu Bazaars should also provide the free transportation facilities, storage facilities and can also establish the processing units on their own rather than to manipulate supplies. This type of facilities can improve the standard of living of the farmers on the one hand and on the other it can increase the performance of the Rythu Bazaars. The supporting factors
like scale of business, product standardization, cooperation among growers and market information can improve the marketing systems. Integration of Rythu Bazaars at various levels can improve the performance of the Rythu Bazaars and it also improves like exporting zones.

1.11 NEED FOR THE STUDY:

Farmers have been exploited through ages. The Modern Governments provided some relief in this regard through the declaration of Minimum Support Price (MSP) for each of the Agriculture Product. The State Government of Andhra Pradesh tried to achieve the twin objectives of avoiding middlemen, who were benefitted more than the actual cultivators and to improve the economic status of the farmers, who were caught in the debt trap, through the introduction of the innovative policy of Rythu Bazaars in the year 1999. The present study aims to evaluate the performance of the Rythu Bazaars.

1.12 Objectives:

The main purpose of this study is to conduct a detailed investigation of the present market system of vegetables in Rythu Bazaars of Andhra Pradesh so as to assess the long term Sustainability of Rythu Bazaars in Agricultural Marketing of Farm Products in Andhra Pradesh for further strengthening. Therefore, the present study has been undertaken especially:

1. to find out the response factors for fluctuations in prices of selected products among selected Rythu Bazaars;
2. to trace out the response factors for fluctuations in quantity arrivals among selected Rythu Bazaars;
3. to analyse the factors influencing the marketing efficiency of Rythu Bazaars;
4. to assess the perceptions of both farmers and consumers to improve the marketing efficiency of Rythu Bazaars; and
5. To suggest the appropriate policy measures for effective functioning of Rythu Bazaars.

1.13 Hypotheses:

The study proposed to test the following hypotheses:

1. There is no significant fluctuation in prices among Rythu Bazaars;
2. There is no significant fluctuation in quantity arrivals among Rythu Bazaars;
3. The economic factors do not influence the marketing efficiency of Rythu Bazaars;
4. The social factors do not influence the marketing efficiency of Rythu Bazaars;
5. There is significant difference in the opinions of both consumers and farmers;

1.14 Methodology:

The study is basically descriptive and analytical in nature, relies on survey method, provides a detailed picture of the existing situation of Rythu Bazaars in Andhra Pradesh and
provides suggestions for improvement. Data pertaining to various aspects of the functioning of Rythu Bazaars in the state has been collected by personal visits to the Rythu Bazaars. The required data have been collected by administering schedules among sampled farmers and consumers of Rythu Bazaars influenced the performance of Rythu Bazaars. Apart from this, the actual situation regarding the attendance of farmers, arrival of vegetables, fluctuation in prices of vegetables in different seasons and the frequency of consumers visiting the Rythu Bazaars has been assessed through observation method.

1.15 Data Base:

Relevant secondary data has been culled from the official reports of Andhra Pradesh Economic Survey 2012-13, all the selected sample Rythu Bazaars in Andhra Pradesh, State Agriculture Marketing Department and the official reports of Government of India, Andhra Pradesh to analyse the Marketing Efficiency and role of Rythu Bazaars in the Agricultural marketing of Farm Products in the state. As the secondary data were found to be insufficient to fulfil all the objectives of the study, primary data have also been collected from the sample members in the study region.

1.16 Sources of Data:

Primary and secondary data pertaining to the selected vegetables from selected Rythu Bazaars have been collected with the help of the pre-tested schedules designed, especially, for the present study.

1.16.1 Designing the Interview Schedule:

Keeping in view of the objectives a comprehensive interview schedule was prepared and canvassed separately for Estate Officer, member farmers, consumers of Rythu Bazaars.

1.16.2 Selection of Vegetables:

The most important vegetable crops i.e. tomato, Brinjal, Lady Finger and green chillies were selected because these were cultivated in larger areas and are available throughout the year.

1.16.3 Selection of Ryhtu Bazaars:

In total of 107 Rythu Bazaars are located in the State of Andhra Pradesh divided into four Categories / Grades based on monthly average quantity arrivals of vegetables for the last 3 years viz., 2008-09, 2009-10 and 2010-11 to the respective Rythu Bazaars. The details of Rythu Bazaars are given in the following table 1.16.3.

In a total of 107 Rythu Bazaars available in the state, a total of 14 Rythu Bazaars (about 13 per cent) were selected for the study. From Grade – A two Rythu Bazaars were visited, from Grade – B three; from Grade-C four; and from Grade-D five Rythu Bazaars were visited according to the availability of farmers in the Rythu Bazaars.
Table – 1.16.3
Grade wise Distribution of Rythu Bazaars in Andhra Pradesh

<table>
<thead>
<tr>
<th>S.No.</th>
<th>Grade of Rythu Bazaar</th>
<th>Monthly Average Quantity Arrivals of Vegetables (In quintals)</th>
<th>No. of Rythu Bazaars</th>
</tr>
</thead>
<tbody>
<tr>
<td>01.</td>
<td>‘A’ – Grade Rythu Bazaars</td>
<td>7,500 and above</td>
<td>34</td>
</tr>
<tr>
<td>02.</td>
<td>‘B’ – Grade Rythu Bazaars</td>
<td>5,000 – 7,500</td>
<td>15</td>
</tr>
<tr>
<td>03.</td>
<td>‘C’ – Grade Rythu Bazaars</td>
<td>2,500 – 5,000</td>
<td>29</td>
</tr>
<tr>
<td>04.</td>
<td>‘D’ – Grade Rythu Bazaars</td>
<td>2,500 and below</td>
<td>29</td>
</tr>
<tr>
<td></td>
<td><strong>Total:</strong></td>
<td></td>
<td><strong>107</strong></td>
</tr>
</tbody>
</table>

Source: Directorate of Marketing, Hyderabad.

1.16.4 Selection of Farmers:
Keeping in view the objectives of the study, a sample of 40 farmers from each grade of Rythu Bazaar was taken through ‘Simple Random Sampling Technique’. Farmers growing selected sample vegetables, who have been bringing their vegetable produce to the respective existing Rythu Bazaars at present, were randomly selected to assess the performance of Rythu Bazaars. Rythu Bazaars were selected according to the number of farmers available in the Rythu Bazaars irrespective of Grades.

1.16.5 Selection of Consumers:
Keeping in view the objectives of the study, a sample of 160 consumers have been consulted through ‘Simple Random Sampling Technique’ from all the Rythu Bazaars. In this method of selection, consumers who visit the respective Rythu Bazaars regularly were randomly selected to know the perceptions towards marketing efficiency of Rythu Bazaars.

1.17 Sampling Design:

<table>
<thead>
<tr>
<th>S.No.</th>
<th>Name of the RB</th>
<th>Grade</th>
<th>Rythu Bazaars</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>No. of Farmers</td>
</tr>
<tr>
<td>1.</td>
<td>C Camp – Kurnool</td>
<td>‘A’</td>
<td>40</td>
</tr>
<tr>
<td>2.</td>
<td>Erragadda – Hyderabad</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3.</td>
<td>Arts College – Rajahmundry</td>
<td>‘B’</td>
<td>40</td>
</tr>
<tr>
<td>4.</td>
<td>SBI Colony – Rajahmundry</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5.</td>
<td>Quarry Centre – Rajahmundry</td>
<td>‘C’</td>
<td>40</td>
</tr>
<tr>
<td>6.</td>
<td>Anantapur</td>
<td></td>
<td></td>
</tr>
<tr>
<td>7.</td>
<td>Kothapet – Kurnool</td>
<td></td>
<td></td>
</tr>
<tr>
<td>8.</td>
<td>Play Ground - Nellore</td>
<td></td>
<td></td>
</tr>
<tr>
<td>9.</td>
<td>Kavali – Nellore</td>
<td></td>
<td></td>
</tr>
<tr>
<td>10.</td>
<td>AA Nagar – Kurnool</td>
<td></td>
<td></td>
</tr>
<tr>
<td>11.</td>
<td>Excise Colony – Warangal</td>
<td></td>
<td></td>
</tr>
<tr>
<td>12.</td>
<td>Fatima Nagar – Warangal</td>
<td>‘D’</td>
<td>40</td>
</tr>
<tr>
<td>13.</td>
<td>Fatekhan Pet – Nellore</td>
<td></td>
<td></td>
</tr>
<tr>
<td>14.</td>
<td>Gudur Mncpl Park – Nellore</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Total:</strong></td>
<td></td>
<td></td>
<td><strong>160</strong></td>
</tr>
</tbody>
</table>
1.18 Secondary Data:
Secondary data were collected from the Directorate of Marketing Department, Government of Andhra Pradesh and from the selected sample Rythu Bazaars to gain an idea regarding seasonality and trend analysis of prices and arrivals of selected sample vegetables.

1.19 Statistical Tools Applied:
The obtained data has analysed using the following statistical tools to draw the necessary conclusions and inferences in the light of obtained results and presenting them in findings form so as to facilitate easy understanding:

1. The spatial and temporal price variations in Tomato, Brinjal, Bhendi and Green Chillies have been analysed by employing the technique of 
**Time Trend Analysis, Seasonal Trend Analysis** using the monthly data on average prices collected from four different grades of Rythu Bazaars during the period from 2008-09 to 2012-13.

2. Statistical tests like **Coefficient of Variation, Coefficient of Variation around Trend Line, Response Factors, Gap Analysis, t-test and Chi-square test** have been used to compare the means and variations in the prices and quantity arrivals in different grades of Rythu Bazaars. These tests can also be used to test the differences in the opinions of Farmers and Consumers on different issues of Rythu Bazaars.

1.20 Scope of the Study:
The study of Rythu Bazaars at this point of time is essential so that their functioning, based on their objectives can be appraised, defects are analysed, strengths can be identified and remedial action can be taken for making them effective tools for empowering the both farmers and consumers.

The present research study was restricted to:

1. Respondent categories of member farmers, consumers, Estate Officers, Horticulture Officers associated with the selected Rythu Bazaars and all the stakeholders from wholesale Markets were also included.

2. Rythu Bazaars existing areas of towns and metropolitan cities.

The study is expected to get result in some useful information for arriving at the strategy for the effective function of the Rythu Bazaars. The findings and recommendations as such can be used by administrators, policy makers, scientists, extension workers, Estate Officers and implementing departments and agencies.

1.21 Period of the Study:
It is observed that there exist a lot of difficulties in collecting recorded and reliable data since its inception of the Rythu Bazaars (20th January, 1999), hence, the period of study is confined to five years i.e. from January, 2008 to December, 2013.
1.22 Limitations of the Study:

A study of this nature is not free from limitations. The following are important limitations of the study:

1. In the absence of database on the subject, the impact of existing marketing conditions on both demand and supply side of marketing of vegetables has been studied, mainly based on their perceptions and the extent they could recall;

2. The study confined only to Rythu Bazaars because the basic purpose of the study is the performance and sustainability of the Rythu Bazaars.

1.23 Chapterization:

Keeping in view of the objectives, the present study is classified into six chapters including the profile of the selected area and the chapter with summary findings and suggestions.

Chapter – I  :  Introduction and Methodology
Chapter – II  :  Horticultural Profile of Andhra Pradesh
Chapter – III  :  Fluctuations in the Quantity Arrivals and Prices of Vegetables in Selected Rythu Bazaars
Chapter – IV  :  Factors Influencing the Marketing Efficiency of Rythu Bazaars
Chapter – V  :  Perceptions of both Farmers and Consumers towards Marketing Efficiency of Rythu Bazaars
Chapter – VI  :  Summary, Conclusions and suggestions for Sustainability of Rythu Bazaars
2.1 Introduction:

In the recent past, horticulture has emerged as one of the potential agricultural enterprise in accelerating the growth of economy. Its role in the country’s nutritional security poverty alleviation and employment generation programmes is becoming increasingly important. The horticulture sector encompasses a wide range of crops e.g., fruit crops, vegetables crops, potato and tuber crops, ornamental crops, medicinal and aromatic crops, spices and plantation crops. While the first few Five Year Plans assigned priority to achieving self sufficiency in food grain production, over the years, horticulture has emerged as an indispensable part of agriculture, offering a wide range of choices to the farmers for crop diversification. It also provides ample opportunities for sustaining large number of agro-industries which generate substantial employment opportunities. The horticulture sector contributes about 24.5% of the GDP from about 8% of the area. This chapter presents the Horticultural profile of Andhra Pradesh (AP). The role of Horticulture and its related aspects in the state of Andhra Pradesh is highlighted in the present Chapter.

2.2 Demographic profile of Andhra Pradesh:

Andhra Pradesh is one of the biggest States in India. According to the census – 2011, the population is 84.6 million i.e., 6.99% of India's total population). It accounts for 8.4% of India's total geographical area and 6.99% of population, ranking 4th in terms of geographical area and 5th in terms of population among the Indian States. The density of population at 308 per Sq.km is lower than the density 382 at all India level. About one-third of the State population is living in urban areas and the rest is in the rural areas of the State. Rural Andhra Pradesh is predominantly agricultural with more than three fourth of its work force engaged directly in Agriculture sector.

2.3 Irrigation Infrastructure:

Andhra Pradesh is primarily an agrarian state. About 60 per cent of the population in the state is depending on agriculture and allied activities. But irrigated agriculture constitutes only about 43.98 per cent of the net sown area in the state.

2.4 Climate:

The state has a tropical climate with moderate diffusion to sub-tropical weather. Humid to semi-humid conditions prevail in the coastal area while arid to semi-arid situations pronounce in the interior parts of the state, particularly Rayalaseema and some districts of Telangana. The areas covered by Deccan Plateau are characterized by hot summers with relative pleasant winters.
2.4.1 Rainfall Status:

India is largely subject to four seasons – winter (January and February), Summer (March to May), Rainy season (June to September) and post monsoon period from October to December.

Rainfall is the important component of Indian economy. The amount of rainfall varies from heavy to inadequate on different parts of India, although the monsoons effect is in a larger part of India. There is substantial regional and temporal variation in the distribution of rainfall in the country. Heavy rainfall receives in west coast and sub Himalayan area, as against this, least rainfall receives in Northern part of Kashmir, Western Rajasthan, Punjab and Deccan Plateau and moderately rainfall receives in rest of the country. 

The principal source of water for agricultural purposes is rainfall. Accurate knowledge of rainfall is needed and its main characteristics of intensity, amount of rainfall and the value of which vary from place to place, day to day and year to year is essential for planning of its maximum utilization.

The state receives its rainfall both from the South-West and North-East monsoons and falls under moderately receive rainfall area. The rainfall of the state of Andhra Pradesh for the past eight years i.e., from 2005-06 to 2012-13 is presented in the table below:

<table>
<thead>
<tr>
<th>S.No.</th>
<th>Year</th>
<th>South West Monsoon (June to September)</th>
<th>North-East Monsoon (October to December)</th>
<th>Average Annual Rainfall (June to May)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Actual</td>
<td>Normal</td>
<td>% of Variation</td>
</tr>
<tr>
<td>1</td>
<td>2005-06</td>
<td>1003</td>
<td>624</td>
<td>60.74</td>
</tr>
<tr>
<td>2</td>
<td>2006-07</td>
<td>627</td>
<td>624</td>
<td>0.48</td>
</tr>
<tr>
<td>3</td>
<td>2007-08</td>
<td>747</td>
<td>624</td>
<td>19.71</td>
</tr>
<tr>
<td>4</td>
<td>2008-09</td>
<td>641</td>
<td>624</td>
<td>2.72</td>
</tr>
<tr>
<td>5</td>
<td>2009-10</td>
<td>454</td>
<td>624</td>
<td>-27.24</td>
</tr>
<tr>
<td>6</td>
<td>2010-11</td>
<td>810</td>
<td>624</td>
<td>29.81</td>
</tr>
<tr>
<td>7</td>
<td>2011-12</td>
<td>539</td>
<td>624</td>
<td>-13.62</td>
</tr>
<tr>
<td>8</td>
<td>2012-13</td>
<td>631</td>
<td>624</td>
<td>1.12</td>
</tr>
<tr>
<td>Average Rainfall</td>
<td>681.5</td>
<td>624</td>
<td>192.0</td>
<td>224</td>
</tr>
</tbody>
</table>

Source: AP State Portal website, Climate

The average annual normal rainfall in the state is 940 mm. It is observed from the table that highest actual annual rainfall is observed in the year 2010-11 followed by 1153 in the year 2005-06, as against this, lowest average annual rainfall is observed in the year 2011-12 with 720.7 mm. Positive percentage of variation is observed in the 2010-11 with 30.53 mm as against this, highest negative percentage of variation is observed in the year 2011-12 with -23.33 mm.

The South-West monsoon usually begins from early June and lasts until about the end of September. The incidence of rainfall in South West monsoon accounts for more than 60 per cent of the annual rainfall in the state as a whole. The average rainfall in South-west monsoon is observed highest in the year 2005-06 with 1003 mm followed by 810 mm in the year 2010-11, as against this, lowest rainfall is observed in the year 2009-10.

The North Eastern monsoon is active between October and December. The average normal rainfall in this monsoon is about 224 mm. Highest rainfall observed in the season was 333 mm both in the years 2010-11 and 2011-12 and, as against this, lowest rainfall is observed in the year 2005-06 with 83 mm. Positive percentage of variation is observed in the years 2010-11 and 2012-13 with 48.66 mm and 48.26 mm respectively and as against this negative percentage of variation is observed in the rest of the years with highest negative of -62.95 mm in the year 2005-06.

It is concluded from the table that the large variation was observed for the last eight years i.e., from 2005-06 to 2012-13 in the state of Andhra Pradesh. Overall average rainfall received in the state of Andhra Pradesh was only 949.1 mm, which was slight higher than state’s normal average rainfall during the same period. The average Rain fall during the North-west monsoon was observed below the normal rainfall received during the same period. The effect of this large variation of rainfall on the Area, production and productivity of the Horticultural crops was observed in the following table.

2.4.2 Annual Average Rainfall and Horticulture Crops:

The amount and distribution of rainfall is important factors in growth and development of crop. Average annual normal rainfall along with better management creates favorable condition and yields better produce of the plant. Sufficient water is necessary at different stages of plant growth. Such highly productive levels will help maximization of food production with high economic returns. According to
Khakbazan M, Grant C and Mohr (2010)\textsuperscript{38} potential crop losses due to extreme weather events and also suggested the farmers that understanding the crop-water relationship will help to partially address some of these concerns and to minimize consequent impacts. According to the study of John R Porter and Mikhail A Semnov\textsuperscript{39} climate variability and changes in the frequency of extreme events are important for yield, stability and quality of horticulture crops. The table presents the relation between annual average rainfall and area, production and productivity of horticulture crops during the period from 2005-06 to 2012-13.

\begin{table}[h]
\centering
\caption{Annual Average Rainfall and Horticulture during the period from 2005-06 to 2012-13}
\begin{tabular}{|c|c|c|c|c|c|c|}
\hline
S.No. & Year & Average Annual Rainfall (June to May) & Area (In '000 Hectares) & Production (In '000 MT) & Productivity (In MT/HA) & \\
\hline
& & Actual & Normal & % of Deviation & & \\
\hline
1 & 2005-06 & 1153 & 940 & 22.66 & 1649.7 & 14419.7 & 8.74 \\
2 & 2006-07 & 858 & 940 & -8.72 & 1785.1 & 16365.2 & 9.17 \\
3 & 2007-08 & 1079 & 940 & 14.79 & 1906.2 & 19142.8 & 10.04 \\
5 & 2009-10 & 745 & 940 & -20.74 & 1910.9 & 20483.3 & 10.72 \\
6 & 2010-11 & 1227 & 940 & 30.53 & 1933.4 & 23324.5 & 12.06 \\
7 & 2011-12 & 720.7 & 940 & -23.33 & 2039.9 & 24784.6 & 12.15 \\
8 & 2012-13 & 963.4 & 940 & 2.49 & 2308.7 & 28913.2 & 12.52 \\
\hline
\textbf{Correlation Coefficient} & -0.269 & -0.182 & -0.126 & \\
\hline
\end{tabular}
\end{table}

\textit{Source: Data compiled from} Source: Horticulture Data Base from 2005 to 2012.

The actual annual rainfall was highest during the year 2005-06 with 1153 mm whereas it was least during the year 2009-10 with 745 mm. It is observed that a large variation in the annual actual rainfall was noticed during the year between 2005-06 and 2012-13. It can be observed that the highest deviation was observed during the

\textsuperscript{38} Khakbazan M, Grant C and Mohr – Impacts of extreme weather events, climate change and crop water relationship for crops grown in Western Canada, in: Lopez-Francos A. (comp.), Lopez-Francos A. (collab.) Economics of drought and drought preparedness in a climate change context, Zaragoza: 2010, page 63-70

\textsuperscript{39} C John R Porter and Mikhail in their article “A Semenov (Crop responses to climatic variation” Published in the journal Philosophical Transactions of the Royal Society published on 29 November 2005 doi:10.1098/rstb.2005.1752 Phil. Trans. R. Soc. B 29 November 2005 vol. 360no. 1463 2021-2035.
year 2010-11 with 30.53 per cent whereas it was observed negative during 2011-12 with 23.33 per cent.

The area, production and productivity were gradually increasing with slight variations in the growth in the same. There was negative correlation between annual average rainfall and area under Horticulture crops with 0.269 per cent followed by negative correlation between annual rainfall and production under horticulture crops with 0.182 per cent whereas it was lease with again negative between average annual rainfall and productivity under Horticulture crops with 0.126 per cent.

2.5 Correlation between Gross Irrigated Area and Production of Horticulture Crops:
Irrigation plays an important role in the agriculture sector where rainfall is inadequate, uncertain and unpredictable. It has played an important role in transforming the crop cultivation and better yield. There are various irrigation facilities such as wells, rivers, tanks and canal irrigation etc. But there are other factors such as location, topography, geological aspects, hilled area etc depending on various elements. Andhra Pradesh lies between 12°14’ – 19°15’ on the North Latitude and 76°50’ – 84°45’ on the East Longitude. Orissa and Madhya Pradesh bound in the North, Tamil Nadu bound in the South; Karnataka and Maharashtra bound in the West and in the East by Bay of Bengal. The state has a coastal area of about 974 Km. On the other hand, production and productivity of horticultural crops depend on irrigation facilities available in the area. Hence, the present table the relation between irrigation and growth of horticulture area, production and productivity considered important.

Gross area irrigated under agriculture had been increased from 5,996 to 6,206 thousand hectares over a period of eight years i.e., between 2005-06 and 2012-13. Least area irrigated under agriculture was observed in the year 2009-10 with 5,764 thousand hectares and on the other hand largest area irrigated under agriculture was observed in the year 2010-11 with 7,153 thousand hectares. Negative growth in the gross irrigated area under agriculture was observed in the years 2009-10, 2011-12 and 2012-13 and highest growth in the same was observed in the year 2010-11 with 24.1 per cent of growth.
Table – 2.5
Area, Production and Productivity of Horticulture Products during the years from 2005-06 to 2012-13 in Andhra Pradesh

<table>
<thead>
<tr>
<th>Year</th>
<th>Gross Irrigated Area In '000 Hectares</th>
<th>Growth Rate in the Gross Irrigated Area</th>
<th>Area under Horticulture Crops (In '000 Hectares)</th>
<th>Ratio</th>
<th>Production (In '000 MT)</th>
<th>Growth Rate in the Production</th>
</tr>
</thead>
<tbody>
<tr>
<td>2005-06</td>
<td>5996</td>
<td></td>
<td>1649.7</td>
<td>0.275</td>
<td>14419.7</td>
<td></td>
</tr>
<tr>
<td>2006-07</td>
<td>6070</td>
<td>1.234</td>
<td>1785.1</td>
<td>0.294</td>
<td>16365.2</td>
<td>13.492</td>
</tr>
<tr>
<td>2007-08</td>
<td>6285</td>
<td>3.542</td>
<td>1906.2</td>
<td>0.303</td>
<td>19142.8</td>
<td>16.973</td>
</tr>
<tr>
<td>2008-09</td>
<td>6741</td>
<td>7.255</td>
<td>1991.2</td>
<td>0.295</td>
<td>20526.0</td>
<td>7.226</td>
</tr>
<tr>
<td>2009-10</td>
<td>5764</td>
<td>-14.493</td>
<td>1910.9</td>
<td>0.332</td>
<td>20483.3</td>
<td>-0.208</td>
</tr>
<tr>
<td>2010-11</td>
<td>7153</td>
<td>24.098</td>
<td>1933.4</td>
<td>0.270</td>
<td>23324.5</td>
<td>13.871</td>
</tr>
<tr>
<td>2011-12</td>
<td>6785</td>
<td>-5.145</td>
<td>2039.9</td>
<td>0.301</td>
<td>24784.6</td>
<td>6.260</td>
</tr>
<tr>
<td>2012-13</td>
<td>6206</td>
<td>-8.534</td>
<td>2308.7</td>
<td>0.372</td>
<td>28913.2</td>
<td>16.658</td>
</tr>
</tbody>
</table>

Correlation Coefficient between Gross Irrigated Area and Horticulture Production: **0.432**

Source: Source: Horticulture Data Base from 2005 to 2012.

The average ratio between area under horticulture crops and gross area irrigated under agriculture was about 0.3 per cent over a period of eight years between 2005-06 and 2012-13. The least ratio between the area under horticulture crops and gross area irrigated under agriculture was seen in the year 2010-11 with 0.270 per cent and as against this, highest ratio between the same was observed in the year 2012-13 with 0.372 per cent.

It is clear from the table that positive correlation is observed between the gross area irrigated under agriculture crops and growth in the production of horticulture crops during the period from 2005-06 to 2012-13. But it is negligible positive correlation between the same. In other words, a large percentage of area under horticulture crops was growing under irrigated area.

2.6 Share of Area, Production and Productivity of Horticulture Products in Andhra Pradesh:

Horticultural crops provide a better alternative for diversification of Indian agriculture in view of higher returns. Horticulture sector helps in improving productivity of land, generating employment, improving economic conditions of the farmers and entrepreneurs. Horticultural products not only have good potential for generating employment in cultivation but also in processing and distribution. And they are frequently produced on small farms, thus providing an important source of additional income for poor farmers in developing countries like India. The present
The share of Area cultivated under Horticulture Products in Andhra Pradesh to India as a whole differed from 8.82 per cent to 9.74 per cent during the period from 2005-06 to 2012-13. The same was increased gradually from 8.82 per cent to the 9.64 per cent between 2005-06 and 2008-09 years. The declining trend was seen from the year 2008-09 to 2011-12 with 9.64 per cent to 8.87 per cent respectively. At the last, highest share was appeared in the year 2012-13 with 9.74 per cent of share in the total Area cultivated under Horticulture in India as against this, lowest share was appeared in the year 2005-06 with 8.82 per cent.

Tremendous increasing trend in the share of Horticulture Production has appeared in the state of Andhra Pradesh during the period from 2005-06 to 2012-13 with 7.89 per cent to 10.75 per cent respectively. Highest share in the horticulture production was seen in the year 2012-13 with 10.75 per cent and as against this, lowest share in the same was appeared in the year 2005-06 with 7.89 per cent. It is significant to note that though there is decreasing trend appeared from the year 2008-09 to 2011-12 in the area under Horticulture crops, production under horticulture was seen increasing trend due to higher productivity in this period.

The average productivity under horticulture crops was 10.55 Metric Tonnes per Hectare in India as a whole and the same was appeared in the state of Andhra Pradesh was about 10.6 Metric Tonnes per Hectare during the period from 2005-06 to

---

Table – 2.6
Area, Production and Productivity of Horticulture Products during the years from 2005-06 to 2012-13

<table>
<thead>
<tr>
<th>Year</th>
<th>Area (In '000 Hectares)</th>
<th>Production (In '000 MT)</th>
<th>Productivity (In MT/HA)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>India</td>
<td>A.P.</td>
<td>% Share</td>
</tr>
<tr>
<td>2005-06</td>
<td>18707.0</td>
<td>1649.7</td>
<td>8.82%</td>
</tr>
<tr>
<td>2006-07</td>
<td>19383.0</td>
<td>1785.1</td>
<td>9.21%</td>
</tr>
<tr>
<td>2007-08</td>
<td>20207.0</td>
<td>1906.2</td>
<td>9.43%</td>
</tr>
<tr>
<td>2008-09</td>
<td>20662.0</td>
<td>1991.2</td>
<td>9.64%</td>
</tr>
<tr>
<td>2009-10</td>
<td>20876.0</td>
<td>1910.9</td>
<td>9.15%</td>
</tr>
<tr>
<td>2010-11</td>
<td>21825.0</td>
<td>1933.4</td>
<td>8.86%</td>
</tr>
<tr>
<td>2011-12</td>
<td>23000.0</td>
<td>2039.9</td>
<td>8.87%</td>
</tr>
<tr>
<td>2012-13</td>
<td>23694.1</td>
<td>2308.7</td>
<td>9.74%</td>
</tr>
</tbody>
</table>

Source: Horticulture Data Base from 2005 to 2012.
2012-13. The average productivity under horticulture crops appeared in the country as a whole was more than the average productivity of Andhra Pradesh state during the period between 2005-06 and 2008-09. But similar productivity was seen in India as well as in the state of Andhra Pradesh with 10.7 Metric Tonne per Hectare under Horticulture Production. The average productivity under horticulture in India as a whole was less than the average productivity under horticulture in the state of Andhra Pradesh during the period from 2010-11 to 2012-13. It is concluded that the average productivity under horticulture products was more than the Indian average due to the facilities provided by the state government.

It is concluded that the average share in the area under horticulture products was 9.28 per cent during the period between 2005-06 and 2012-13 and on the other hand, the average share in the horticulture production in the state of Andhra Pradesh was about 9.32 per cent. It is concluded that the share of production under horticulture products is more than the area under horticulture products during the period of eight years due to increase in the productivity levels.

2.7 The share of Area, Production and Productivity of Vegetables in Andhra Pradesh:

The major vegetables grown in the state are Tomato, Onion, Tapioca, Brinjal and Bhendi. Per capita availability of vegetables in India was 63.87 Kgs per person per year and it was less than world average per capita availability of vegetables (111.95 kgs per person per year). Vegetables and fruits are having the nutrition values, which will increase health standards of the people.

<table>
<thead>
<tr>
<th>Year</th>
<th>Area (In '000 Hectares)</th>
<th>Production (In '000 MT)</th>
<th>Productivity (In MT/HA)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>India</td>
<td>A.P.</td>
<td>% Share</td>
</tr>
<tr>
<td>2005-06</td>
<td>7213.0</td>
<td>266.9</td>
<td>3.70%</td>
</tr>
<tr>
<td>2006-07</td>
<td>7584.0</td>
<td>264.9</td>
<td>3.49%</td>
</tr>
<tr>
<td>2007-08</td>
<td>7803.0</td>
<td>284.1</td>
<td>3.64%</td>
</tr>
<tr>
<td>2008-09</td>
<td>6657.1</td>
<td>324.6</td>
<td>4.88%</td>
</tr>
<tr>
<td>2009-10</td>
<td>7984.8</td>
<td>331.3</td>
<td>4.15%</td>
</tr>
<tr>
<td>2010-11</td>
<td>8494.6</td>
<td>651.2</td>
<td>7.67%</td>
</tr>
<tr>
<td>2011-12</td>
<td>8900.0</td>
<td>661.0</td>
<td>7.43%</td>
</tr>
<tr>
<td>2012-13</td>
<td>9205.2</td>
<td>686.1</td>
<td>7.45%</td>
</tr>
</tbody>
</table>

Source: Horticulture Data Base from 2005 to 2012.
The share of area under vegetable crops in the state of Andhra Pradesh was double during the period between 2005-06 and 2012-13 with an increment of 3.7 per cent to 7.45 per cent to the India as a whole. Declining trend in the share of area under vegetable crops was during the first four years i.e. From 2005-06 to 2007-08 with 3.7 per cent to 3.64 per cent respectively and as against this, tremendous increasing trend was appeared during the period from 2010-11 with 4.15 per cent to 2012-13 with 7.45 per cent. One of the causes behind the increment in the share of area under vegetable crops is the establishment of Rythu Bazars in the state of Andhra Pradesh in the year 1999 but the impact of Rythu Bazars on the Vegetables crops is shown from the year 2010-11. The least share in the area under vegetable crops was 3.49 per cent in the year 2006-07 and as against this highest share in the area under vegetable crops was 7.67 per cent in the year 2010-11.

The share of vegetable production in the state of Andhra Pradesh was also double during the period of eight years i.e from 2005-06 to 2012-13 with an increment of 3.93 per cent to 7.46 per cent. The least share of vegetable production in the state of Andhra Pradesh was 3.79 per cent in the years 2006-07 and 2007-08. As against this, highest share of vegetable production in the state of Andhra Pradesh was 8.08 per cent in the year 2010-11.

The productivity under vegetable production for one metric tonne per hectare in the state of Andhra Pradesh was higher than the productivity under vegetable crops in the country as a whole throughout the period from 2005-06 to 2012-13 except in the years 2009-10, where it was only 0.3 metric tones per hectare was more in the country as a whole than in the state of Andhra Pradesh, and in the year 2012-13, where it was more or less equal with 17.6 metric tones per hectare of vegetable production.

2.8 Percentage Share of Vegetable Crops in the total Horticulture Crops:

An attempt has been made to know the situation of share of vegetable crops in the Horticultural Crops in the state of Andhra Pradesh, which is presented in the present table.
Table – 2.8
Percentage share of Vegetable Crops in the total Horticulture Crops during the years from 2005-06 to 2012-13 in Andhra Pradesh

<table>
<thead>
<tr>
<th>Year</th>
<th>Area (In '000 Hectare)</th>
<th>% Share</th>
<th>Production (In '000 MT)</th>
<th>% Share</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Total Horticulture Crops</td>
<td>Vegetable Crops</td>
<td>Total Horticulture Crops</td>
<td>Vegetable Crops</td>
</tr>
<tr>
<td>2005-06</td>
<td>1649.7</td>
<td>266.9</td>
<td>14419.7</td>
<td>4374.1</td>
</tr>
<tr>
<td>2006-07</td>
<td>1785.1</td>
<td>264.9</td>
<td>16365.2</td>
<td>4355.9</td>
</tr>
<tr>
<td>2007-08</td>
<td>1906.2</td>
<td>284.1</td>
<td>19142.8</td>
<td>4769.9</td>
</tr>
<tr>
<td>2008-09</td>
<td>1991.2</td>
<td>324.6</td>
<td>20526.0</td>
<td>5267.5</td>
</tr>
<tr>
<td>2009-10</td>
<td>1910.9</td>
<td>331.3</td>
<td>20483.3</td>
<td>5426.2</td>
</tr>
<tr>
<td>2010-11</td>
<td>1933.4</td>
<td>651.2</td>
<td>23324.5</td>
<td>11847.6</td>
</tr>
<tr>
<td>2011-12</td>
<td>2039.9</td>
<td>661.0</td>
<td>24784.6</td>
<td>12025.3</td>
</tr>
<tr>
<td>2012-13</td>
<td>2308.7</td>
<td>686.1</td>
<td>28913.2</td>
<td>12104.7</td>
</tr>
</tbody>
</table>

Source: Source: Horticulture Data Base from 2005 to 2012.

The percentage share of area under vegetable crops in the total horticulture crops was more or less double during the period of eight years i.e., between 2005-06 and 2012-13 from 14.8 per cent to 33.7 per cent. The lowest share of area under vegetable crops in the total Horticulture Crops was appeared in the year 2006-07 with only 14.8 per cent. As against this, highest share of area under vegetable crops in the total horticulture crops was appeared in the year 2010-11 with 33.7 per cent. There is negative trend in the share of area under vegetable crops during the year from 2005-06 to 2006-07 with 16.2 per cent to 14.8 per cent. As against this, positive trend in the same was appeared during the period from 2006-07 to 2012-13 whereas tremendous trend was appeared from the year 2010-11, where the share of area under vegetable crops was more or less double (17.3 per cent in 2009-10 and 33.7 per cent in 2010-11). It is clear from the table that one of the major impacts in the tremendous increment in the share of area under vegetable crops was the establishment and functioning of Rythu Bazaars in the state of Andhra Pradesh.

The least share in the production of vegetable crops to the total of horticulture crops was appeared 24.9 per cent in the year 2007-08. As against this, highest share in the production of vegetable crops to the total of horticulture crops was appeared 50.8 per cent in the year 2010-11. Declining trend in the share of production under vegetable crops was appeared during the period between 2005-06 and 2007-08 with 30.3 per cent to 24.9 per cent and during the period from 2010-11 to 2012-13 with 50.8 per cent to 41.9 per cent. As against this, increasing trend in the share of
production under vegetable crops was appeared during the period between 2007-08 and 2010-11 whereas tremendous increment was appeared during the period from 2009-10 to 2010-11 with 26.5 to 50.8 per cent increment.

It is concluded that the share of production under vegetable crops was more than the share of area under vegetable crops during the entire period of eight years.

**Vegetables main production Areas in the State:**

1. Tomato : Kurnool, Chittoor, Ranga Reddy, Prakasam
2. Onion : Kurnool, Medak, Kadapa, Mahaboob Nagar, Ranga Reddy
4. Bhendi : Kurnool, Krishna, Warangal, Vizag, Nalgonda


**2.9 Share of Area, Production and Productivity of Fruits in the state of Andhra Pradesh:**

Share of area, production and productivity under fruits in the state of Andhra Pradesh has been depicted in the present table.

<table>
<thead>
<tr>
<th>Year</th>
<th>Area (In '000 Hectares)</th>
<th>Production (In '000 MT)</th>
<th>Productivity (In MT/HA)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>India</td>
<td>A.P.</td>
<td>% Share</td>
</tr>
<tr>
<td>2005-06</td>
<td>5324.0</td>
<td>782.6</td>
<td>14.70%</td>
</tr>
<tr>
<td>2006-07</td>
<td>5554.0</td>
<td>818.1</td>
<td>14.73%</td>
</tr>
<tr>
<td>2007-08</td>
<td>5775.0</td>
<td>853.0</td>
<td>14.77%</td>
</tr>
<tr>
<td>2008-09</td>
<td>6100.9</td>
<td>935.9</td>
<td>15.34%</td>
</tr>
<tr>
<td>2009-10</td>
<td>6329.2</td>
<td>921.1</td>
<td>14.55%</td>
</tr>
<tr>
<td>2010-11</td>
<td>6383.0</td>
<td>646.1</td>
<td>10.12%</td>
</tr>
<tr>
<td>2011-12</td>
<td>6600.0</td>
<td>671.7</td>
<td>10.18%</td>
</tr>
<tr>
<td>2012-13</td>
<td>6982.1</td>
<td>940.7</td>
<td>13.47%</td>
</tr>
</tbody>
</table>

Source: Source: Horticulture Data Base from 2005 to 2012.

The share of area under fruit crops was declined from 14.7 per cent to 13.47 per cent during the period between 2005-06 and 2012-13. Highest share of area under fruit crops was observed in the year 2008-09 with 15.34 per cent whereas lowest share of area under fruit crops was shown in the year 2010-11 with 10.18 per cent. The
declining trend in the share of area under fruit crops was seen during the period between 2008-09 and 2010-11 with 15.34 per cent to 10.12 per cent. As against this, increasing trend in the share of area under fruit crops was observed during the period between 2005-06 and 2008-09 with 14.7 per cent to 15.34 per cent and from the year from 2010-11 to 2012-13 with 10.12 per cent to 13.47 per cent.

The share of production under fruit crops was fluctuating between 12.58 per cent and 18.06 per cent during the period between 2005-06 and 2012-13. Highest share of production under fruit crops was observed in the year 2010-11 with 12.58 per cent whereas least share of production under fruit crops was observed in the year 2009-10 with 18.06 per cent.

The average share in the area under fruit crops in the state of Andhra Pradesh was about 13.48 per cent and the average share in the production under fruit crops in the state of Andhra Pradesh was about 15.94 per cent during the period between 2005-06 and 2012-13. It is clear that the share of production was more than the share of area under fruit crops in the state of Andhra Pradesh during the period of eight years i.e., from 2005-06 to 2012-13.

The Average Productivity under Fruits crops was higher in the state of Andhra Pradesh with 13.4 metric tones per hectare than in the country as a whole, where it was only 11.2 metric tones per hectare during the period between 2005-06 and 12-13.

2.10 Share of Fruit Crops in the total Horticulture Crops in Andhra Pradesh:

The present table depicts the share of fruit crops in the total Horticulture Crops in the state of Andhra Pradesh.

<table>
<thead>
<tr>
<th>Year</th>
<th>Area (In '000 Hectares)</th>
<th>% Share</th>
<th>Production (In '000 MT)</th>
<th>% Share</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Total Horticulture Crops</td>
<td>Fruit Crops</td>
<td>Total Horticulture Crops</td>
<td>Fruit Crops</td>
</tr>
<tr>
<td>2005-06</td>
<td>1649.7</td>
<td>782.6</td>
<td>47.4%</td>
<td>14419.7</td>
</tr>
<tr>
<td>2006-07</td>
<td>1785.1</td>
<td>818.1</td>
<td>45.8%</td>
<td>16365.2</td>
</tr>
<tr>
<td>2007-08</td>
<td>1906.2</td>
<td>853.0</td>
<td>44.7%</td>
<td>19142.8</td>
</tr>
<tr>
<td>2008-09</td>
<td>1991.2</td>
<td>935.9</td>
<td>47.0%</td>
<td>20526.0</td>
</tr>
<tr>
<td>2009-10</td>
<td>1910.9</td>
<td>921.1</td>
<td>48.2%</td>
<td>20483.3</td>
</tr>
<tr>
<td>2010-11</td>
<td>1933.4</td>
<td>646.1</td>
<td>33.4%</td>
<td>23324.5</td>
</tr>
<tr>
<td>2011-12</td>
<td>2039.9</td>
<td>671.7</td>
<td>32.9%</td>
<td>24784.6</td>
</tr>
<tr>
<td>2012-13</td>
<td>2308.7</td>
<td>940.7</td>
<td>40.7%</td>
<td>28913.2</td>
</tr>
</tbody>
</table>

Source: Source: Horticulture Data Base from 2005 to 2012.
The share of area under fruit crops in the total horticulture crops was highest in the year 2009-10 with 48.2 per cent. Fluctuations in the share of area under fruit crops to the horticulture crops have been observed from 32.9 per cent to 48.2 per cent during the period between 2005-06 and 2012-13.

On the other hand, the share of production under fruit crops in the total horticulture crops was highest in the year 2006-07 with 64.1 per cent whereas it was lowest in the year 2011-12 with 39.7 per cent.

The share of production under fruit crops to the total horticulture crops was more than the share of area under fruit crops in the state of Andhra Pradesh during the period from 2005-06 to 2012-13. The average share of area under fruit crops to the total horticulture crops was 42.5 per cent whereas the average share of production under fruit crops to the total horticulture crops was 53.4 per cent in the state of Andhra Pradesh.

Andhra Pradesh ranks first in the production of Mango, Chillies, Turmeric, Sweet Lime and Papaya. According to the National Horticulture Mission Action Plan for Andhra Pradesh, Mango, Sweet Orange and Banana are the leading fruit crops in Andhra Pradesh and account for over 86 per cent of the area under fruit and over 77 per cent of the total fruit production.\(^\text{40}\)

2.11 Fruits – Major Production Areas in the State:

<table>
<thead>
<tr>
<th>Name of the Fruit</th>
<th>Production Areas</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mango</td>
<td>Chittoor, Krishna, Vizianagaram, Khammam, Kadapa, West Godavari</td>
</tr>
<tr>
<td>Sweet Orange</td>
<td>Nalgonda, Prakasam, Anantapuram, Karimnagar,</td>
</tr>
<tr>
<td>Banana</td>
<td>East Godavari, West Godavari, Guntur, Vizianagaram, Kadapa, Kurnool</td>
</tr>
<tr>
<td>Papaya</td>
<td>Kadapa, Anantapur, Prakasam</td>
</tr>
<tr>
<td>Lemon</td>
<td>Nellore, Kadapa, West Godavari, Nalgonda</td>
</tr>
<tr>
<td>Sapota</td>
<td>Guntur, Prakasam, Anantapuram</td>
</tr>
</tbody>
</table>


2.12 Share of Floriculture in the state of Andhra Pradesh:

Floriculture has become an important commercial activity in agriculture. Floriculture activity has evolved as a viable and profitable alternative with a potential to generate remunerative self employment among small and marginal farmers and

earning huge profits from exporting it to other countries. India is bestowed with several agro-climatic zones conducive for production of sensitive and delicate floriculture products. During the decade after liberalization floriculture industry has seen a dynamic shift from sustenance production to commercial production. Floriculture is now commercially cultivated in several states with Andhra Pradesh with 24 per cent followed by Tamil Nadu (20 per cent), Karnataka with 13 per cent having gone ahead of other producing states like Madhya Pradesh, Gujarat, Maharashtra, Punjab, Haryana, West Bengal, Orissa etc. In this context, the share of floriculture in the state of Andhra Pradesh to the country as a whole is considered significant.

| Area, Production and Productivity of Flowers during the years from 2005-06 to 2012-13 | Year | Area (In '000 Hectares) | Production (In '000 MT) |
|:--|:--|:--|:--|:--|:--|:--|:--|:--|:--|
| | India | A.P. | % Share | India | A.P. | % Share for Loose | % Share for Cut |
| | | | | Loose | Cut | Loose | Cut | |
| 2005-06 | 128.7 | 17.5 | 13.61% | 654.1 | 29203.4 | 88.8 | 67.1 | 13.58% | 0.23% |
| 2006-07 | 144.0 | 21.7 | 15.04% | 880.4 | 37156.3 | 116.2 | 65.9 | 13.20% | 0.18% |
| 2007-08 | 160.7 | 23.5 | 14.63% | 870.4 | 43417.5 | 126.3 | 67.8 | 14.51% | 0.16% |
| 2008-09 | 166.5 | 19.5 | 11.71% | 987.4 | 47942.0 | 125.0 | 3.0 | 12.66% | 0.01% |
| 2009-10 | 182.9 | 21.4 | 11.70% | 1020.6 | 66671.4 | 130.3 | 6202.0 | 12.77% | 9.30% |
| 2010-11 | 190.9 | 21.8 | 11.42% | 1031.3 | 69027.4 | 133.7 | 6202.0 | 12.96% | 8.98% |
| 2011-12 | 320.0 | 64.2 | 20.06% | 2600.0 | 75066.0 | 389.0 | 7099.4 | 14.96% | 9.46% |
| 2012-13 | 232.7 | 34.9 | 14.97% | 1729.2 | 76731.9 | 224.4 | 6909.0 | 12.98% | 9.00% |
| | 14.14% | 13.45% | 4.67% |

Source: Horticulture Data Base from 2005 to 2012.

The average share of area under floriculture in the state of Andhra Pradesh was about 14.14 per cent to the total of India as a whole during the period between 2005-06 and 2012-13. The least share of area under floriculture was observed with 11.42 cent in the year 2010-11 whereas highest share of area under floriculture was observed with 20.06 per cent in the year 2011-12. Declining trend was observed in the share of area under floriculture in the state of Andhra Pradesh during the period from 2006-07 to 2010-11 and during the period between 2011-12 and 2012-13 whereas increasing trend was observed during the period between 2005-06 and 2006-07 and between 2010-11 and 2011-12.

The least share of production under loose flowers was seen in the year 2008-09 with 12.66 per cent where as it was seen highest in the year 2011-12 with 14.96 per cent. The average share of production under loose flowers was about 13.45 per
cent whereas it was only 4.67 per cent for cut flowers in the state of Andhra Pradesh. It is observed that the average share of area and production under floriculture was more or less same in the state of Andhra Pradesh. The share of production under cut flowers was below one per cent up to the year 2008-09 and tremendous increase in the share of production under cut flowers was observed from the year 2009-10 with 9.3 per cent share every year.

2.13 Share of Floriculture in the total Horticulture Crops:

The traditional flowers grown in the state are Rose, Jasmine, Cross Andhra, Chrysanthemum, Marigold, Tuberose etc. There has been a significant increase in the demand for cut flowers of crops such as Gerbera, Carnation, Anthodium.

<table>
<thead>
<tr>
<th>Year</th>
<th>Area (In '000 Hectares)</th>
<th>% Share</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Total Horticulture Crops</td>
<td>Floriculture</td>
</tr>
<tr>
<td>2005-06</td>
<td>1649.7</td>
<td>17.5</td>
</tr>
<tr>
<td>2006-07</td>
<td>1785.1</td>
<td>21.7</td>
</tr>
<tr>
<td>2007-08</td>
<td>1906.2</td>
<td>23.5</td>
</tr>
<tr>
<td>2008-09</td>
<td>1991.2</td>
<td>19.5</td>
</tr>
<tr>
<td>2009-10</td>
<td>1910.9</td>
<td>21.4</td>
</tr>
<tr>
<td>2010-11</td>
<td>1933.4</td>
<td>21.8</td>
</tr>
<tr>
<td>2011-12</td>
<td>2039.9</td>
<td>64.2</td>
</tr>
<tr>
<td>2012-13</td>
<td>2308.7</td>
<td>34.9</td>
</tr>
<tr>
<td></td>
<td>28.06</td>
<td></td>
</tr>
</tbody>
</table>

Source: Horticulture Data Base from 2005 to 2012

Average share in the area under floriculture to the total horticulture crops was observed about 1.4 per cent over a period of eight years i.e., from 2005-06 to 2012-13. Highest share in the area of floriculture was observed 3.1 per cent in the year 2011-12 and in rest of the years the share in the area of floriculture was more or less same during the period. The average area under floriculture was 28.06 thousand hectares during the period between 2005-06 and 2012-13.
2.14 Flowers Main Production Areas:

<table>
<thead>
<tr>
<th>Name of the Flower</th>
<th>Main Production Areas</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Loose Flowers:</strong></td>
<td></td>
</tr>
<tr>
<td>Cross Andhra</td>
<td>Anantapuramu, Kurnool</td>
</tr>
<tr>
<td>Jasmine</td>
<td>Anantapuramu, Kurnool, Ranga Reddy, Guntur, Visakhapatnam</td>
</tr>
<tr>
<td>Marigold</td>
<td>Ranga Reddy, Nellore, Kurnool</td>
</tr>
<tr>
<td>Chrysanthemum</td>
<td>Chittoor, Kadapa, Ranga Reddy</td>
</tr>
<tr>
<td><strong>Cut Flowers</strong></td>
<td></td>
</tr>
<tr>
<td>Rose</td>
<td>Ranga Reddy, Nizamabad</td>
</tr>
<tr>
<td>Gladiolus</td>
<td>Medak, Ranga Reddy, Nizamabad</td>
</tr>
</tbody>
</table>


2.15 Share of Area under Vegetables, Fruits and Floriculture in the total Horticulture:

The Horticulture sector has been a driving force in stimulating a healthy growth trend in Indian Agriculture.

<table>
<thead>
<tr>
<th>Year</th>
<th>Area (In '000 Hectares)</th>
<th>Total Horticulture</th>
<th>Vegetables</th>
<th>% Share</th>
<th>Fruit Crops</th>
<th>% Share</th>
<th>Flowers</th>
<th>% Share</th>
<th>% Share</th>
<th>% Share</th>
</tr>
</thead>
<tbody>
<tr>
<td>2005-06</td>
<td>1649.7</td>
<td>266.9</td>
<td>16.2%</td>
<td>782.6</td>
<td>47.4%</td>
<td>17.5</td>
<td>1.1%</td>
<td>1067.0</td>
<td>64.68%</td>
<td></td>
</tr>
<tr>
<td>2006-07</td>
<td>1785.1</td>
<td>264.9</td>
<td>14.8%</td>
<td>818.1</td>
<td>45.8%</td>
<td>21.7</td>
<td>1.2%</td>
<td>1104.7</td>
<td>61.88%</td>
<td></td>
</tr>
<tr>
<td>2007-08</td>
<td>1906.2</td>
<td>284.1</td>
<td>14.9%</td>
<td>853.0</td>
<td>44.7%</td>
<td>23.5</td>
<td>1.2%</td>
<td>1160.6</td>
<td>60.89%</td>
<td></td>
</tr>
<tr>
<td>2008-09</td>
<td>1991.2</td>
<td>324.6</td>
<td>16.3%</td>
<td>935.9</td>
<td>47.0%</td>
<td>19.5</td>
<td>1.0%</td>
<td>1280.0</td>
<td>64.28%</td>
<td></td>
</tr>
<tr>
<td>2009-10</td>
<td>1910.9</td>
<td>331.3</td>
<td>17.3%</td>
<td>921.1</td>
<td>48.2%</td>
<td>21.4</td>
<td>1.1%</td>
<td>1273.8</td>
<td>66.66%</td>
<td></td>
</tr>
<tr>
<td>2010-11</td>
<td>1933.4</td>
<td>651.2</td>
<td>33.7%</td>
<td>646.1</td>
<td>33.4%</td>
<td>21.8</td>
<td>1.1%</td>
<td>1319.1</td>
<td>68.23%</td>
<td></td>
</tr>
<tr>
<td>2011-12</td>
<td>2039.9</td>
<td>661.0</td>
<td>32.4%</td>
<td>671.7</td>
<td>32.9%</td>
<td>64.2</td>
<td>3.1%</td>
<td>1396.9</td>
<td>68.48%</td>
<td></td>
</tr>
<tr>
<td>2012-13</td>
<td>2308.7</td>
<td>686.1</td>
<td>29.7%</td>
<td>940.7</td>
<td>40.7%</td>
<td>34.9</td>
<td>1.5%</td>
<td>1661.6</td>
<td>71.97%</td>
<td></td>
</tr>
</tbody>
</table>

Average: 21.9% 42.5% 1.4% 65.8%

Source: Horticulture Data Base from 2005 to 2012.

It is observed from the table that about 65.8 per cent of the share had been occupied by the area under vegetables, Fruits and Floriculture crops in the total Horticulture crops in the state of Andhra Pradesh over a period of eight years i.e. from 2005-06 to 2012-13. In this, major area of about 42.5 per cent had been occupied by the fruit crops followed by vegetable crops with only 21.9 per cent. But negligible share was occupied by the floriculture with 1.4 per cent of area. It is significant to note that there is more or less equal percentage of share could be seen during the period of 2010-11 with approximately 33.4 per cent.
It is also observed that the trend between area under vegetable crops and fruit crops was in opposite direction during the period between 2009-10 and 2010-11 and vice versa between 2011-12 and 2012-13. In other words, when the percentage share of area under fruit crops was declining during the period between 2009-10 and 2010-11 the share of area under vegetable crops was increasing during the same period. It is clear that the share of area under fruit crops was shifted towards vegetable cultivation during the period between 2009-10 and 2010-11 and vice versa during the period between 2011-12 and 2012-13.

2.16 Percentage share of Area under Tomato Crop in the state of Andhra Pradesh to the India as a whole:

Andhra Pradesh is a major vegetable producing states of India. A variety of tropical sub tropical vegetables are grown in the state. The state occupies second place in the national scenario in respect of tomato. The present table indicates the share of area, production and productivity under tomato crop of Andhra Pradesh in the national scenario.

Productivity under tomato crop was 19 MT per hectare and it was increased to 20 MT per hectare in the state of Andhra Pradesh where as it was 16.5 MT per hectare and it was increased to 18.3 MT per hectare in India as a whole over a period of eight year from 2005-06 to 2011-12. It is clear that average productivity under tomato crop was higher in the state of Andhra Pradesh than country as a whole.

Percentage share of area under Tomato crop in the state of Andhra Pradesh to the India as a whole was about 15.4 per cent in the year 2005-06 and it was doubled (15.42 per cent to 33.16 per cent) over a period of eight years i.e between 2005-06
and 2011-12. Least percentage share was appeared in the year 2008-09 with 12.37 per cent and as against this highest share was appeared in the year 2010-11 with 34.25 per cent.

Table – 2.16
Percentage share of Area, Production and Productivity under Tomato Crop in the state of A.P. during the period from 2005-06 to 2011-12

<table>
<thead>
<tr>
<th>Year</th>
<th>Area</th>
<th>Production</th>
<th>Productivity</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>India</td>
<td>A.P.</td>
<td>% Share</td>
</tr>
<tr>
<td>2005-06</td>
<td>546.1</td>
<td>84.2</td>
<td>15.42%</td>
</tr>
<tr>
<td>2006-07</td>
<td>596</td>
<td>81.1</td>
<td>13.61%</td>
</tr>
<tr>
<td>2007-08</td>
<td>572</td>
<td>74.1</td>
<td>12.95%</td>
</tr>
<tr>
<td>2008-09</td>
<td>599</td>
<td>74.1</td>
<td>12.37%</td>
</tr>
<tr>
<td>2009-10</td>
<td>634</td>
<td>87</td>
<td>13.72%</td>
</tr>
<tr>
<td>2010-11</td>
<td>865</td>
<td>296.3</td>
<td>34.25%</td>
</tr>
<tr>
<td>2011-12</td>
<td>907</td>
<td>300.8</td>
<td>33.16%</td>
</tr>
</tbody>
</table>

Source: Horticulture Data Base from 2005 to 2012.

Percentage share of production under Tomato crop in the state of Andhra Pradesh to the India as a whole was about 16.31 per cent in the year 2005-06 and it was doubled (16.31 per cent to 32.25 per cent) over a period of eight years i.e between 2005-06 and 2011-12. Least percentage share of production under tomato crop was appeared in the year 2008-09 with 12.64 per cent and as against this, highest share was appeared in the year 2010-11 with 35.86 per cent.

2.17 Growth in the Area and Production of Tomato Crop in Andhra Pradesh between 2005-06 to 2011-12:

Source: Based on Source: Horticulture Data Base from 2005 to 2012.

Annual growth rate in the area under tomato crop was negative in the year 2007-08 with 4.03 per cent whereas it was highest positive growth in the year 2010-
11 in the country as a whole. The negative growth appeared in the year 2006-07 and 2007-08 with 3.68 per cent and 8.63 per cent respectively and highest growth rate was appeared in the year 2010-11 with 240.57 per cent in the state of Andhra Pradesh. It is clear that highest growth rate in the area under tomato crop was appeared in the year 2010-11 both in the state of Andhra Pradesh and India as a whole.

Annual growth rate in the production under tomato crop was least in the year 2007-08 with 2.05 per cent where as it was highest in the year 2010-11 with 32.92 per cent in India as a whole. On the other hand, negative growth was appeared in 2006-07 and 2007-08 with 3.82 and 8.58 per cent whereas highest growth rate was appeared in the year 2010-11 with 258.71 per cent in the state of Andhra Pradesh.

The correlation between growth rate in the area and production under tomato crop was negative in India as a whole in the years 2006-07 and 2010-11 whereas it was positive in the rest of the years. Positive correlation between growth rate in the area and production under tomato crop was appeared in the year 2010-11 in the state of Andhra Pradesh.

2.18 Share of Tomato Crop in the Vegetable Crops:

The present table depicts the share of Tomato Crop in the total Vegetable Crop in the state of Andhra Pradesh to the India as a whole.

<table>
<thead>
<tr>
<th>Year</th>
<th>Area Vegetables</th>
<th>Area Tomato</th>
<th>Area % Share</th>
<th>Production Vegetables</th>
<th>Production Tomato</th>
<th>Production % Share</th>
<th>Productivity Vegetables</th>
<th>Productivity Tomato</th>
<th>Productivity % Share</th>
<th>Difference</th>
</tr>
</thead>
<tbody>
<tr>
<td>2005-06</td>
<td>266.9</td>
<td>84.2</td>
<td>31.55%</td>
<td>4374.1</td>
<td>1601.5</td>
<td>36.61%</td>
<td>16.4</td>
<td>19</td>
<td>2.6</td>
<td></td>
</tr>
<tr>
<td>2006-07</td>
<td>264.9</td>
<td>81.1</td>
<td>30.62%</td>
<td>4355.9</td>
<td>1540.3</td>
<td>35.36%</td>
<td>16.4</td>
<td>19</td>
<td>2.6</td>
<td></td>
</tr>
<tr>
<td>2007-08</td>
<td>284.1</td>
<td>74.1</td>
<td>26.08%</td>
<td>4769.9</td>
<td>1408.1</td>
<td>29.52%</td>
<td>16.8</td>
<td>19</td>
<td>2.2</td>
<td></td>
</tr>
<tr>
<td>2008-09</td>
<td>324.6</td>
<td>74.1</td>
<td>22.83%</td>
<td>5267.5</td>
<td>1408.1</td>
<td>26.73%</td>
<td>16.2</td>
<td>19</td>
<td>2.8</td>
<td></td>
</tr>
<tr>
<td>2009-10</td>
<td>331.3</td>
<td>87</td>
<td>26.26%</td>
<td>5426.2</td>
<td>1652.1</td>
<td>30.45%</td>
<td>16.4</td>
<td>19</td>
<td>2.6</td>
<td></td>
</tr>
<tr>
<td>2010-11</td>
<td>651.2</td>
<td>296.3</td>
<td>45.50%</td>
<td>11847.6</td>
<td>5926.2</td>
<td>50.02%</td>
<td>18.2</td>
<td>20</td>
<td>1.8</td>
<td></td>
</tr>
<tr>
<td>2011-12</td>
<td>661</td>
<td>300.8</td>
<td>45.51%</td>
<td>12025.3</td>
<td>6015.1</td>
<td>50.02%</td>
<td>18.2</td>
<td>20</td>
<td>1.8</td>
<td></td>
</tr>
</tbody>
</table>

Source: Horticulture Data Base from 2005 to 2012.

The least share of area under tomato cultivation in the total vegetable crop was appeared in the year 2008-09 with 22.83 per cent where as highest share of area under tomato cultivation in the total vegetable crops was appeared in the years 2010-11 and 2011-12 with 45.5 per cent.
The least share of production under tomato cultivation in the total vegetable crops was appeared in the year 2008-09 with 26.73 per cent whereas highest share of production under tomato cultivation was appeared again in the years 2010-11 and 2011-12 with 50.02 per cent.

Average share of area under tomato cultivation in the total vegetables area was about 32.62 per cent where as the average share of production under tomato cultivation in the total vegetables area was about 36.96 per cent in the state of Andhra Pradesh over a period of seven years from 2005-06 to 2011-12. The least difference in the productivity between the vegetable crop and tomato crops was 1.8 MT per hectare in the year 2010-11 and 2011-12 whereas highest difference was 2.6 MT in the years 2005-06 and 2007-08.

Average productivity under vegetable crops was less than (16.94 per cent) the average productivity (19.28 per cent) under tomato crops in the state of Andhra Pradesh over a period of seven years from 2005-06 to 2011-12.

**2.19 Share of Area, Production and Productivity under Brinjal in A.P:**

The state occupies sixth place in the national scenario in respect of Brinjal production. The present table indicates the share of area, production and productivity under Brinjal crop of Andhra Pradesh in the national scenario.

<table>
<thead>
<tr>
<th>Year</th>
<th>Area</th>
<th>Production</th>
<th>Productivity</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>India A.P</td>
<td>% Share</td>
<td>India A.P</td>
</tr>
<tr>
<td>2005-06</td>
<td>553</td>
<td>29.3</td>
<td>9136.3</td>
</tr>
<tr>
<td>2006-07</td>
<td>568</td>
<td>28.5</td>
<td>9453</td>
</tr>
<tr>
<td>2007-08</td>
<td>566</td>
<td>26.6</td>
<td>9596</td>
</tr>
<tr>
<td>2008-09</td>
<td>600</td>
<td>26.6</td>
<td>10378</td>
</tr>
<tr>
<td>2009-10</td>
<td>590</td>
<td>24.3</td>
<td>10165</td>
</tr>
<tr>
<td>2010-11</td>
<td>680</td>
<td>75.1</td>
<td>11896</td>
</tr>
<tr>
<td>2011-12</td>
<td>692</td>
<td>76.3</td>
<td>12634</td>
</tr>
</tbody>
</table>

Source: Horticulture Data Base from 2005 to 2012.

Least share of area under Brinjal was appeared in the year 2009-10 where as highest share of area under Brinjal cultivation was appeared in the year 2010-11 and 2011-12 with 11 per cent in the state of Andhra Pradesh to the country as a whole. The share of area under Brinjal cultivation was doubled (increased from 5.30 per cent to 11 per cent) over a period of seven years i.e., from 2005-06 to 2011-12 to the country as a whole.
Least share of production under Brinjal cultivation in the state of Andhra Pradesh to the India as a whole was appeared in the year 2006-07 with 4.53 per cent whereas highest share of production under Brinjal cultivation was appeared in the year 2010-11 with 12.63 per cent. The share of production under Brinjal cultivation was doubled (increased from 6.72 per cent to 12 per cent) over a period of seven years between 2005-06 and 2011-12.

Productivity under Brinjal cultivation was higher in the state of Andhra Pradesh (17 per cent) than in India as a whole (20 MT per hectare) except in the year 2006-07.

2.20 Annual Growth in the Area and Production under Brinjal during the period between 2005-06 and 2011-12:

Annual growth rate in the area under Brinjal cultivation was appeared negative in the years 2006-07 and 2009-10 with 0.35 per cent and 1.67 per cent whereas highest growth rate was appeared in the year 2010-11 with 15.25 per cent in India as a whole. Annual growth rate in the area under Brinjal cultivation was appeared negative in the consecutive years 2006-07, 2007-08, 2009-10 and zero in the year 2008-09 in the state of Andhra Pradesh.

Annual growth rate of production under Brinjal cultivation was appeared negative in the year 2010-11 with 2.05 per cent whereas highest growth rate was
appeared in the year 2010-11 with 17.03 per cent in the country as a whole. On the other hand, annual growth rate of production under Brinjal cultivation was appeared negative in the years 2006-07 and 2009-10 with 30.31 per cent and 8.71 per cent whereas highest growth rate was appeared in the year 2010-11 with 209.8 per cent in the state of Andhra Pradesh.

The below depicts the percentage share of area, production and productivity under Brinjal cultivation to the vegetable crops.

Table – 2.20
Percentage share of Area, Production and Productivity under Brinjal Crop to the total Vegetable Crops in Andhra Pradesh during the period from 2005-06 to 2011-12

<table>
<thead>
<tr>
<th>Year</th>
<th>Vegetables Area</th>
<th>Brinjal Area</th>
<th>% Share</th>
<th>Vegetables Production</th>
<th>Brinjal Production</th>
<th>% Share</th>
<th>Vegetables Productivity</th>
<th>Brinjal Productivity</th>
<th>Difference</th>
</tr>
</thead>
<tbody>
<tr>
<td>2005-06</td>
<td>266.9</td>
<td>29.3</td>
<td>10.98%</td>
<td>4374.1</td>
<td>614.4</td>
<td>14.05%</td>
<td>16.4</td>
<td>20.9</td>
<td>4.5</td>
</tr>
<tr>
<td>2006-07</td>
<td>264.9</td>
<td>28.5</td>
<td>10.76%</td>
<td>4355.9</td>
<td>428.2</td>
<td>9.83%</td>
<td>16.4</td>
<td>15.02</td>
<td>-1.38</td>
</tr>
<tr>
<td>2007-08</td>
<td>284.1</td>
<td>26.6</td>
<td>9.36%</td>
<td>4769.9</td>
<td>531.3</td>
<td>11.14%</td>
<td>16.8</td>
<td>20</td>
<td>3.2</td>
</tr>
<tr>
<td>2008-09</td>
<td>324.6</td>
<td>26.6</td>
<td>8.19%</td>
<td>5267.5</td>
<td>531.3</td>
<td>10.09%</td>
<td>16.2</td>
<td>20</td>
<td>3.8</td>
</tr>
<tr>
<td>2009-10</td>
<td>331.3</td>
<td>24.3</td>
<td>7.33%</td>
<td>5426.2</td>
<td>485</td>
<td>8.94%</td>
<td>16.4</td>
<td>20</td>
<td>3.6</td>
</tr>
<tr>
<td>2010-11</td>
<td>651.2</td>
<td>75.1</td>
<td>11.53%</td>
<td>11847.6</td>
<td>1502.4</td>
<td>12.68%</td>
<td>18.2</td>
<td>20</td>
<td>1.8</td>
</tr>
<tr>
<td>2011-12</td>
<td>661</td>
<td>76.3</td>
<td>11.54%</td>
<td>12025.3</td>
<td>1524.9</td>
<td>12.68%</td>
<td>18.2</td>
<td>20</td>
<td>1.8</td>
</tr>
</tbody>
</table>

Source: Horticulture Data Base from 2005 to 2012.

Least share in the area under Brinjal to the total vegetable crop was appeared in the year 2007-08 with 7.93 per cent whereas highest share in the area under Brinjal to the total vegetable crop was appeared in the year 2011-12 with 11.54 per cent.

Least share in the production under Brinjal to the total vegetable crop was appeared in the year 2009-10 with 8.94 per cent whereas highest share was appeared in the year 2005-06 with 14 per cent.

2.21 Correlation between Fertilizer Consumption and Horticulture Production:

Consumption of fertilizers determines the production and productivity of the any product.

The consumption in the fertilizers for growing agriculture crops had been increasing year by year but the growth in the consumption was not in the upward slop during the period between 2005-06 and 2011-12. The highest growth in the consumption of fertilizers was observed in the year 2008-09 with 15.12 per cent of growth followed by 14.22 per cent growth in the year 2010-11. It is also significant to note that negative growth in the consumption of fertilizers could be seen in the years 2006-07, 2009-10 and 2011-12 with 2.67 per cent, 0.31 per cent and 4.42 per cent of negative growth.
Table – 2.21
Annual Growth in the Fertilizer Consumption and Horticulture Production during the years from 2005-06 to 2011-12 in Andhra Pradesh

<table>
<thead>
<tr>
<th>Year</th>
<th>Fertilizer Consumption ('000 MT)</th>
<th>Annual Growth Rate</th>
<th>Horticulture Production ('000 MT)</th>
<th>Annual Growth Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>2006-07</td>
<td>2484.1</td>
<td>-2.67</td>
<td>16365.2</td>
<td>13.49</td>
</tr>
<tr>
<td>2007-08</td>
<td>2667.6</td>
<td>7.39</td>
<td>19142.8</td>
<td>16.97</td>
</tr>
<tr>
<td>2008-09</td>
<td>3070.9</td>
<td>15.12</td>
<td>20526.0</td>
<td>7.23</td>
</tr>
<tr>
<td>2009-10</td>
<td>3061.4</td>
<td>-0.31</td>
<td>20483.3</td>
<td>-0.21</td>
</tr>
<tr>
<td>2010-11</td>
<td>3496.8</td>
<td>14.22</td>
<td>23324.5</td>
<td>13.87</td>
</tr>
<tr>
<td>2011-12</td>
<td>3342.4</td>
<td>-4.42</td>
<td>24784.6</td>
<td>6.26</td>
</tr>
</tbody>
</table>

Correlation Coefficient: 0.318

Source: Horticulture Data Base from 2005 to 2012.

It is observed from the table that there is positive growth in the production of horticulture crops during the period between 2005-06 and 2011-12 except in the year 2009-10, where negative growth in the production of horticulture could be seen. Highest growth in the production of horticulture was observed in the year 2007-08 with 16.97 per cent following by 13.87 per cent in the year 2010-11.
It is significant to note that there is positive correlation between the consumption of fertilizers and the horticulture production during the period between 2005-06 and 2011-12 but the correlation is negligible.

**Conclusion:**

About 60 per cent of the population in the state is depending on agriculture and allied activities. But irrigated agriculture constitutes only about 43.98 per cent of the net sown area in the state. Overall average rainfall received in the state of Andhra Pradesh was only 949.1 mm during the year between 2005-06 and 2011-12. The incidence of rainfall in South West monsoon accounts for more than 60 per cent of the annual rainfall in the state as a whole. It is observed that there is negative correlation between rainfall and area, production and productivity under horticultural crops because majority of the area grown under horticultural crops were depending on irrigation facilities rather than depending on rainfall. The average area under Horticulture crops was about 1649.7 thousand hectares and it was increased to 2308.7 thousand hectares during the period between 2005—12 and it accounts 10.75 per cent to the India as a whole. Productivity under horticulture crops was more or less same in both India as a whole and state of Andhra Pradesh.

The area under vegetable crops was about 266.9 thousand hectares in the state of Andhra Pradesh and its share in India as a whole about 3.7 per cent and it was increased to 686.1 thousand hectares (7.45 per cent share in India as a whole) over a period of eight years from 2005-06 to 2012-13. The share of area under vegetable crops in the state of Andhra Pradesh to the India as a whole was doubled during the period between 2005-06 The average productivity under vegetable crops was noticed higher in the state of Andhra Pradesh with 17.03 MT than national average productivity, where it was noticed only 16.46 Metric Tonners per year. This is due to establishment of Rythu Bazaars in the state of Andhra Pradesh. The percentage share of area and production under vegetable crops in the total horticulture crops in the state of Andhra Pradesh was more or less double from 14.8 per cent to 33.7 per cent and from 24.9 per cent to 50.8 per cent respectively during the period of eight years i.e between 2005-06 and 2012-13.

The share of area under fruit crops in the state of Andhra Pradesh to the country as a whole was declined from 14.7 per cent to 13.47 per cent during the period between 2005-06 and 2012-13 while the share of production under fruit crops was fluctuating between 12.58 per cent and 18.06 per cent during the same period.
The Average Productivity under Fruits crops was higher in the state of Andhra Pradesh with 13.4 metric tones per hectare than in the country as a whole, where it was only 11.2 metric tones per hectare during the period between 2005-06 and 2012-13.

The average share of area under floriculture in the state of Andhra Pradesh was about 14.14 per cent to the total of India as a whole during the period between 2005-06 and 2012-13. The average share of production under loose flowers was about 13.45 per cent whereas it was only 4.67 per cent for cut flowers in the state of Andhra Pradesh during the same period. Average share in the area under floriculture to the total horticulture crops was observed about 1.4 per cent over a period of eight years i.e., from 2005-06 to 2012-13 whereas average area under floriculture in the same period was 28.06 thousand hectares. It is concluded that share of area under horticultural crops need to be encouraged by providing marketing facilities with remunerative prices.

$$$
This chapter presents the trends in the market arrivals and prices of selected vegetable crops (Tomato, Brinjal, Bhendi and Green Chillies) variability pattern of market arrivals and prices in the Rythu Bazaars selected for the study in the state of Andhra Pradesh. The study is based on quantity arrivals of the selected Rythu s, prices of Rythu Bazaars and difference of prices between Rythu Bazaars and Retail Markets.

It is well-known fact that vegetables are perished in nature and it is characterised by wide variations in output which subsequently leads to wider fluctuations in market arrivals. The extent of fluctuations in market arrivals and its perishability of nature largely contribute to the price instability of vegetable crops. In order to device the appropriate ways and means for not only reducing the degree of fluctuations in the prices of vegetable products but also increasing the quantity of market arrivals, there is need to have a perfect understanding about the behaviour of prices of different vegetable produce and responsiveness of market arrivals to price movements over a period of time. The experimental knowledge of the relationship between prices and market arrivals of different vegetable produce for assessing the degree of responsiveness of market arrivals to price movements is required over a period of time. The findings of the experimental study not only useful in understanding the magnitude of the problem but also useful in formulating suitable solutions at policy level. Therefore, an attempt is made in this study to examine the existing influence of vegetable prices on quantity arrivals to the Rythu Bazaars selected for the study.

As the study was relied upon the secondary time series data, the required information on quantity arrivals and prices of different vegetable produce (Tomato, Brinjal, Bhendi and Green Chillies) were collected from the Directorate of Marketing, Rythu Bazaars Division, Andhra Pradesh State. The analysis was performed on the basis of secondary time series data for a period of six years i.e., 2008 to 2013. With a view to examine the fluctuations in quantity arrivals and prices of both Rythu Bazaars and Local Markets, the following statistical tools were used. With a view to assess the extent of instability the Coefficient of Variation (CV) and instability indeed known as normalised coefficient of variation around the trend line (CVTL) were used in the present study.

Coefficient of Variation (CV) = \( \frac{S.D}{\text{Mean}} \times 100 \)

Where,
S.D = Standard Deviation of daily arrivals of selected vegetable produce
Mean = Mean of quantity arrivals, prices and differences of prices between Rythu Bazaar markets and Local Markets. Coefficient of Variation measures the extent of variability in market arrivals / prices around the central value (Mean);

Coefficient of Variation around Trend Line (CVTL) =

\[
\frac{SD}{Mean} \times 100 = \left( \frac{e^2}{n-k} \right) / Mean \times 100 = \left( \frac{(Y-a-bt)^2}{72-1} \right) / Mean \times 100
\]

To estimate the trends linear regression function is fitted to the time series data for different Rythu Bazaars selected for the study. The linear regression equation is found to be more suitable depending upon the value of \( r^2 \) and statistical significance of the trend co-efficient.

3. Fluctuations in Market Arrivals and differences of Prices between Rythu Bazaar Markets and Local Retail Market:

With a view to assess the extent of instability / variability the coefficients of variations (CV) and instability index known as normalised coefficient of variation around trend line (CVTL) is used in the present study.

3.1 Fluctuations in Market Arrivals of Tomato in Selected Rythu Bazaars During the period between 2008 and 2013:

The extent of variability in quantity arrivals in selected Rythu Bazaars for Tomato produce has been brought out in the present table.

Table 3.1 reveals the empirical evidence that the extent of variability in quantity arrivals of Tomato produce both in terms of coefficient of variation and coefficient of variation around trend line is highest in Anantapuramu Rythu Bazaar with 45.8666 percent of CV and 28.3600 per cent CVTL followed by Erragadda Rythu Bazaar with 43.608 per cent CV and 23.187 per cent of CVTL. As against this, the extent of variability in quantity arrivals of Tomato produce both in terms of coefficient of variation and coefficient of variation around trend line is lowest in Kothapet – Kurnool Rythu Bazaar with 20.7197 per cent CV and 1.2081 per cent CVTL.
## Table – 3.1
Variations in Market Arrivals of Tomato in Selected Rythu Bazaars during the period between 2008 and 2013

<table>
<thead>
<tr>
<th>S.No.</th>
<th>Name of the Rythu Bazaar</th>
<th>Mean Arrivals</th>
<th>Coefficient of Variation (CV) %</th>
<th>CV around Trend Line</th>
</tr>
</thead>
<tbody>
<tr>
<td>A1</td>
<td>C Camp RB – Kurnool</td>
<td>1,743</td>
<td>29.4724</td>
<td>8.3004</td>
</tr>
<tr>
<td>A2</td>
<td>Erragadda RB – Hyderabad</td>
<td>1,929</td>
<td>43.6080</td>
<td>23.1871</td>
</tr>
<tr>
<td>B1</td>
<td>Arts College – Rajahmundry</td>
<td>331</td>
<td>25.5460</td>
<td>6.0221</td>
</tr>
<tr>
<td>B2</td>
<td>SBI Colony – Rajahmundry</td>
<td>355</td>
<td>28.2667</td>
<td>2.0909</td>
</tr>
<tr>
<td>B3</td>
<td>Quarry Centre – Rajahmundry</td>
<td>492</td>
<td>34.9382</td>
<td>19.9171</td>
</tr>
<tr>
<td>C1</td>
<td>Anantapuramu</td>
<td>231</td>
<td>45.8666</td>
<td>28.3600</td>
</tr>
<tr>
<td>C2</td>
<td>Kothapet – Kurnool</td>
<td>654</td>
<td>20.7197</td>
<td>1.2081</td>
</tr>
<tr>
<td>C3</td>
<td>Play Ground – Nellore</td>
<td>521</td>
<td>33.5378</td>
<td>9.7248</td>
</tr>
<tr>
<td>C4</td>
<td>Kavali – Nellore</td>
<td>1,062</td>
<td>26.3920</td>
<td>5.7817</td>
</tr>
<tr>
<td>D1</td>
<td>AA Nagar – Kurnool</td>
<td>368</td>
<td>38.9620</td>
<td>35.6174</td>
</tr>
<tr>
<td>D2</td>
<td>Excise Colony – Warangal</td>
<td>268</td>
<td>22.1705</td>
<td>16.8259</td>
</tr>
<tr>
<td>D3</td>
<td>Fatima Nagar – Warangal</td>
<td>208</td>
<td>27.7670</td>
<td>23.5851</td>
</tr>
<tr>
<td>D4</td>
<td>Fatekhkan Pet – Nellore</td>
<td>243</td>
<td>41.5604</td>
<td>6.7006</td>
</tr>
<tr>
<td>D5</td>
<td>Gudur Mncpl Park – Nellore</td>
<td>454</td>
<td>38.3253</td>
<td>3.5147</td>
</tr>
</tbody>
</table>

Source: Directorate of Marketing, Rythu Bazaars, Andhra Pradesh
The extent of variability in quantity arrivals of Tomato produce in terms of coefficient of variation is highest in Anantapuramu Rythu Bazaar with 45.87% percent followed by Erragadda Rythu Bazaar (43.6080%), Fathekhana pet-Nellore Rythu Bazaar (41.5604%), Ameen Abbas Nagar Rythu Bazaar (38.962%), Gudur Municipal Park Rythu Bazaar (38.3253%). As against this, the extent of variability in quantity arrivals of Tomato produce in terms of coefficient of variation is lowest in Kothapet – Kurnool Rythu Bazaar (20.720%) followed by Excise Colony – Warangal Rythu Bazaar (22.171%). The extent of variability of quantity arrivals of Tomato produce in terms of coefficient of variation around trend line is highest in Ameen Abbas Nagar – Kurnool Rythu Bazaar (35.62%) followed by Anantapuramu Rythu Bazaar (28.36%) and as against this, the extent of variability of quantity arrivals of Tomato produce in terms of coefficient of variation around trend is lowest in Kothapet-Kurnool Rythu Bazaar (1.21%) followed by SBI Colony – Rajahmundry Rythu Bazaar (2.10%).

The average monthly arrival of Tomato was highest in Erragadda-Hyderabad Rythu Bazaar with 1,929 quintals in A Grade Rythu Bazaar, Quarry Centre – Rajahmundry RB with 492 quintals in B Grade Rythu Bazaar, Kavali-Nellore RB with 1062 quintals in C Grade Rythu Bazaar and Gudur Municipal Park – Nellore with 454 quintals in D Grade Rythu Bazaars. On the other hand, the average monthly arrival of Tomato was noticed lowest in C Camp RB with 1743 quintals in A Grade RB, Arts College-Rajahmundry with 331 quintals in B Grade Rythu Bazaar, Anantapuramu RB with 231 quintals in C Grade RB, Fatima Nagar – Nellore RB with 208 quintals in D Grade RB.

3.2 Month wise Fluctuations in Market Arrivals of Tomato among different Grades of Rythu Bazaars:

The extent of month wise variability in quantity arrivals in selected Rythu Bazaars for Tomato produce has been brought out in the present table.

Table 3.2 reveals the empirical evidence that the extent of variability in quantity arrivals, measured in terms of coefficient of variation, in ‘A’ Grade Rythu Bazaar was noticed higher from the month of October (33.22%) to February (52.07%), which happened to be the main season in most parts of the state and was lower during the lean season i.e. August (20.28%) and September (22.91%) and peak marketing period i.e. April (22.7%) and May (21.91%).
Table 3.2
Month wise Fluctuations in Market Arrivals of Tomato among different Grades of Rythu Bazaars

<table>
<thead>
<tr>
<th>Name of the Market</th>
<th>A Gr Rythu Bazaar</th>
<th>B Gr Rythu Bazaar</th>
<th>C Grade Rythu Bazaar</th>
<th>D Gr Rythu Bazaar</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Mean</td>
<td>CV</td>
<td>CVTL</td>
<td>Mean</td>
</tr>
<tr>
<td>January</td>
<td>1914</td>
<td>49.163</td>
<td>36.491</td>
<td>379</td>
</tr>
<tr>
<td>February</td>
<td>1833</td>
<td>52.065</td>
<td>39.751</td>
<td>351</td>
</tr>
</tbody>
</table>

Source: Directorate of Marketing, Rythu Bazaars, Andhra Pradesh
The pattern was not uniform in the ‘B’ Grade Rythu Bazaar, where the extent of variability in quantity arrivals was noticed higher during the months of January and February (44.89% to 50.59%). As against this, the extent of variability in quantity arrivals of Tomato was noticed lower during the period from May to November (11.43% to 18.01%). The extent of variability in quantity arrivals in ‘C’ Grade Rythu Bazaar was noticed higher in the months of January and February (28.65% to 43.57%) and as against this, the extent of variability in quantity arrivals was noticed lowest in the month of March (11.48%) followed by September (15.54%). The extent of variability in quantity arrivals in ‘D’ Grade Rythu Bazaar was noticed higher in the month of February (49.93%) followed by January (37.54%) and the same was noticed lower in the months of June and July (10.5%) followed by December (13.63%).

It is also observed from the table that the fluctuations around the regression line, measured in terms of coefficient of variation around trend line, was very high in the month of February in all grades of Rythu Bazaars and it was low in the month of December (8.4%) in ‘A’ Grade Rythu Bazaar, in the month of August (2.16%) in ‘B’ Grade Rythu Bazaar, in the month of March (7.68%) in ‘C’ Grade Rythu Bazaar and in the month of June (3.33%) in ‘D’ Grade Rythu Bazaar.

The average monthly arrival of Tomato was highest in the month of March with 2,103 quintals in A Gr RB and 703 quintals in C Gr Rythu Bazaar, in the month of May in B Gr Rythu Bazaars with 439 quintals, in the month of July in D Gr RB with 339 quintals. As against this, least arrivals was noted in the month of June in A Gr RB with 1506 quintals, in the month of February in B Gr RB, C Gr RB and D Gr RBs with 351, 543 and 261 quintals respectively.

It is concluded from the table that the extent of variability in quantity arrivals of Tomato crop, measured in terms of both coefficient of variation, was noticed higher in the month of February in all grades of Rythu Bazaars. As against this, the pattern was not uniform among different Grades of Rythu Bazaars, where the extent of fluctuations in quantity arrivals of Tomato was noticed lower in different months in different grades of Rythu Bazaars.

3.3 Fluctuations in Market Arrivals of Brinjal in Selected Rythu Bazaars during the period from 2008 to 2013:

The extent of variability in quantity arrivals in selected Rythu Bazaars for Brinjal produce has been brought out in the present table.
### Table – 3.3
Fluctuations in Market Arrivals of Brinjal in Selected Rythu Bazaars during the period from 2008 to 2013

<table>
<thead>
<tr>
<th>S.No.</th>
<th>Name of the Rythu</th>
<th>Mean Arrivals</th>
<th>Coefficient of Variation (CV) %</th>
<th>CV around Trend Line</th>
</tr>
</thead>
<tbody>
<tr>
<td>A1</td>
<td>C Camp RB – Kurnool</td>
<td>491</td>
<td>43.533</td>
<td>4.326</td>
</tr>
<tr>
<td>A2</td>
<td>Erragadda RB – Hyderabad</td>
<td>1318</td>
<td>22.274</td>
<td>1.881</td>
</tr>
<tr>
<td>B1</td>
<td>Arts College – Rajahmundry</td>
<td>407</td>
<td>23.480</td>
<td>10.804</td>
</tr>
<tr>
<td>B3</td>
<td>Quarry Centre – Rajahmundry</td>
<td>557</td>
<td>38.426</td>
<td>24.937</td>
</tr>
<tr>
<td>C1</td>
<td>Anantapuramu</td>
<td>151</td>
<td>60.473</td>
<td>41.658</td>
</tr>
<tr>
<td>C3</td>
<td>Play Ground – Nellore</td>
<td>249</td>
<td>58.394</td>
<td>43.338</td>
</tr>
<tr>
<td>C4</td>
<td>Kavali – Nellore</td>
<td>153</td>
<td>27.044</td>
<td>0.781</td>
</tr>
<tr>
<td>D1</td>
<td>AA Nagar – Kurnool</td>
<td>97</td>
<td>37.711</td>
<td>32.578</td>
</tr>
<tr>
<td>D2</td>
<td>Excise Colony – Warangal</td>
<td>265</td>
<td>21.775</td>
<td>11.033</td>
</tr>
<tr>
<td>D3</td>
<td>Fatima Nagar – Warangal</td>
<td>94</td>
<td>24.731</td>
<td>19.256</td>
</tr>
<tr>
<td>D4</td>
<td>Fatehkhan Pet – Nellore</td>
<td>68</td>
<td>60.869</td>
<td>48.751</td>
</tr>
<tr>
<td>D5</td>
<td>Gudur Mncpl Park – Nellore</td>
<td>191</td>
<td>43.325</td>
<td>9.036</td>
</tr>
</tbody>
</table>

**Source:** Directorate of Marketing, Rythu Bazaars, Andhra Pradesh
The average monthly arrival of Brinjal was highest in Erragadda Rythu Bazaar with 1318 quintals in A Grade Rythu Bazaar, Quarry Centre- Rajahmundry in B Grade Rythu Bazaar with 557 quintals, Play Ground – Nellore in C Grade Rythu Bazaar with 249 Quintals and Excise Colony- Warangal in D Grade Rythu Bazaar with 265 quintals whereas it was lowest in C Camp RB in A Gr RB, Arts College, Rajahmundry in B Gr RB with 407 quintals, Kothapet Kurnool RB with 124 quintals in C Gr RB and Fatehkhan Pet Rythu Bazaar in D Gr RB with only 68 quintals.

Table 3.3 reveals the empirical evidence that the extent of variability in quantity arrivals of Brinjal produce both in terms of coefficient of variation and coefficient of variation around trend line is highest in Fathekhan Pet-Nellore with 60.87% of CV and 48.751% of CVTL followed by Anantapuramu Rythu Bazaar with 60.47% CV and 41.66% CVTL. As against this, the extent of variability in quantity arrivals of Brinjal Produce both in terms of coefficient of variation and coefficient of variation around trend line was lowest in Kavali Rythu Bazaar.

The extent of variability in quantity arrivals of Brinjal produce in terms of coefficient of variation was noticed highest in Fatehkhan Pet Rythu Bazaar with 60.87% followed by Anantapuramu Rythu Bazaar (60.47%), Play Ground-Nellore (58.39%). As against this, the extent of fluctuations in quantity arrivals of Brinjal produce in terms of coefficient of variation around trend line was noticed lowest in Excise Colony – Warangal with 21.78 per cent followed by Erragadda – Hyderabad Rythu Bazaar (22.27%). The extent of variability in quantity arrivals of Brinjal produce in terms of coefficient of variation around trend line was noticed highest in Fatehkanpet-Nellore Rythu Bazaar with 48.75% followed by Play Ground-Nellore with 43.34% and lowest was noticed in Kavali-Nellore Rythu Bazaar with 0.78% followed by Erragadda-Hyderabad Rythu Bazaar with 1.88 per cent.

3.4 Season wise Fluctuations in Market Arrivals of Brinjal among different Grades of Rythu Bazaars during the period from 2008 – 2013:

The extent of month wise variability in quantity arrivals in selected Rythu Bazaars for Tomato produce has been brought out in the present table.
Table – 3.4
Month wise Fluctuations in Market arrivals of Brinjal among different Grades of Rythu Bazaars during the period between 2008 and 2013

<table>
<thead>
<tr>
<th>Name of the Market</th>
<th>A Gr Rythu Bazaar</th>
<th>B Gr Rythu Bazaar</th>
<th>C Grade Rythu Bazaar</th>
<th>D Gr Rythu Bazaar</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Mean</td>
<td>CV</td>
<td>CVTL</td>
<td>Mean</td>
</tr>
<tr>
<td>February</td>
<td>782</td>
<td>50.439</td>
<td>18.187</td>
<td>375</td>
</tr>
<tr>
<td>August</td>
<td>935</td>
<td>17.261</td>
<td>6.417</td>
<td>478</td>
</tr>
<tr>
<td>September</td>
<td>844</td>
<td>12.025</td>
<td>7.081</td>
<td>466</td>
</tr>
</tbody>
</table>

Source: Directorate of Marketing, Rythu Bazaars, Andhra Pradesh
Table 3.4 reveals that the extent of fluctuation in quantity arrivals of Brinjal, measured in terms of coefficient of variation, highest was noticed in the month of February in all grades of Rythu Bazaars viz., ‘A’ Grade Rythu Bazaar with 50.439%, ‘B’ Grade Rythu Bazaar with 48.608%, ‘C’ Grade Rythu Bazaar with 46.066%; and ‘D’ Grade Rythu Bazaars with 42.017%. As against this, the lowest variation in quantity arrivals of Brinjal measured in terms of coefficient of variation was noticed in the month of October in ‘A’ Grade (7.735%), May in ‘B’ Grade (9.270%), December in ‘C’ Grade (20.921%) and ‘D’ Grade (11.9%) Rythu Bazaars.

The highest extent of variation in quantity arrivals of Brinjal measured in terms of coefficient of variation around trend line was noticed again in the month of February in all grades of Rythu Bazaars viz., ‘A’ Grade with (18.187%); ‘B’ Grade (33.725%), ‘C’ Grade (46.065%); ‘D’ Grade Rythu Bazaars with 47.258% and as against this, lowest extent of variation in quantity arrivals of Brinjal was noticed in the month of April and October in ‘A’ Grade RB with 1.853% and 1.980% respectively; in the month of May in ‘B’ Grade Rythu Bazaar with 2.997%; in the month of January in ‘C’ Grade Rythu Bazaar with 6.298%; and September (0.068%) and August (0.817%) in ‘D’ Grade Rythu Bazaars.

The average monthly arrival of Brinjal was highest in the month of June in all Grades of Rythu Bazaars from A Grade to D Grade – 1939, 1476, 782 and 770 quintals respectively. As against this, least average monthly arrivals was noted in the month of February in A, B and D Grade Rythu Bazaars with 782, 375 and 110 quintals respectively and the same was noted in the months of February and September in C Grade Rythu Bazaar.

It is concluded that the extent of variations in quantity arrivals of Brinjal measured both in terms of coefficient of variation and coefficient of variation among trend line among different grades of Rythu Bazaars was not observed uniformity in quantity arrivals but in some months.

### 3.5 Fluctuations in Market Arrivals of Bhendi in Selected Rythu Bazaars during the period between 2008 and 2013:

The extent of variability in quantity arrivals in selected Rythu Bazaars for Bhendi has been brought out in the present table.
### Table 3.5
Variations in Market Arrivals of Bhendi in Selected Rythu Bazaars during the period between 2008 and 2013

<table>
<thead>
<tr>
<th>S.No.</th>
<th>Name of the Rythu</th>
<th>Mean Arrivals</th>
<th>Coefficient of Variation (CV) %</th>
<th>CV around Trend Line</th>
</tr>
</thead>
<tbody>
<tr>
<td>A1</td>
<td>C Camp RB – Kurnool</td>
<td>350</td>
<td>40.951</td>
<td>0.0953</td>
</tr>
<tr>
<td>A2</td>
<td>Erragadda RB – Hyderabad</td>
<td>1342</td>
<td>22.797</td>
<td>4.370</td>
</tr>
<tr>
<td>B1</td>
<td>Arts College – Rajahmundry</td>
<td>393</td>
<td>24.108</td>
<td>10.370</td>
</tr>
<tr>
<td>B3</td>
<td>Quarry Centre – Rajahmundry</td>
<td>428</td>
<td>36.404</td>
<td>23.258</td>
</tr>
<tr>
<td>C1</td>
<td>Anantapuramu</td>
<td>50</td>
<td>75.591</td>
<td>45.254</td>
</tr>
<tr>
<td>C2</td>
<td>Kothapet – Kurnool</td>
<td>114</td>
<td>25.917</td>
<td>14.488</td>
</tr>
<tr>
<td>C3</td>
<td>Play Ground – Nellore</td>
<td>140</td>
<td>55.830</td>
<td>41.081</td>
</tr>
<tr>
<td>C4</td>
<td>Kavali – Nellore</td>
<td>96</td>
<td>34.037</td>
<td>3.045</td>
</tr>
<tr>
<td>D1</td>
<td>AA Nagar – Kurnool</td>
<td>111</td>
<td>36.358</td>
<td>28.768</td>
</tr>
<tr>
<td>D2</td>
<td>Excise Colony – Warangal</td>
<td>97</td>
<td>21.460</td>
<td>10.785</td>
</tr>
<tr>
<td>D3</td>
<td>Fatima Nagar – Warangal</td>
<td>68</td>
<td>23.850</td>
<td>17.188</td>
</tr>
<tr>
<td>D4</td>
<td>Fatehkhan Pet – Nellore</td>
<td>82</td>
<td>67.232</td>
<td>48.506</td>
</tr>
<tr>
<td>D5</td>
<td>Gudur Mncll Park – Nellore</td>
<td>145</td>
<td>40.797</td>
<td>10.678</td>
</tr>
</tbody>
</table>

**Source:** Directorate of Marketing, Rythu Bazaars, Andhra Pradesh
The average monthly arrivals of Bhendi was highest in Erragadda Rythu Bazaar with 1342 quintals in A Gr RB, Quarry Centre, Rajahmundry with 428 quintals in B Grade Rythu Bazaar, Play Ground – Nellore in C Grade Rythu Bazaar with 140 Quintals and Gudur Municipal Park-Nellore in D Gr RB with 145 quintals whereas least average monthly arrivals of Bhendi was noticed in C Camp RB – Kurnool in A Gr RB with 350 quintals, SBI Colony-Rajahmundry in B Grade Rythu Bazaar with 376 quintals, Anantapuramu RB in C Grade Rythu Bazaar with 50 quintals and Fathima Nagar-Warangal in D Gr Rythu Bazaar with 68 quintals.

Table 3.5 envisages that the extent of variability in quantity arrivals of Bhendi produce both in terms of coefficient of variation and coefficient of variation around trend line is highest in Anantapuramu Rythu Bazaar followed by Fathekhan Pet-Nellore Rythu Bazaar, Play Ground- Nellore Rythu Bazaar.

It is also noted that the extent of variability in quantity arrivals of Bhendi, measured in terms of coefficient of variation, was highest in Anantapuramu Rythu Bazaar with 75.591 per cent followed by Fathehkhan Pet-Nellore Rythu Bazaar with 67.232 per cent, Play Ground-Nellore Rythu Bazaar with 55.830 as against this, it was noted least in Excise Colony-Warangal Rythu Bazaar with 21.460 per cent followed by Erragadda Rythu Bazaar with 22.797 per cent.

The extent viability in quantity arrivals of Bhendi measured in terms of coefficient of variation around trend line was highest again in Fathehkhan pet Rythu Bazaar with 48.506 followed by Anantapuramu Rythu Bazaar with 45.254 per cent, Play Ground – Nellore Rythu Bazaar with 41.081 per cent whereas it was noted least in C Camp – Kurnool Rythu Bazaar with 0.095 per cent followed by Kavali Nellore with 3.045 per cent.

3.6 Month wise Fluctuations in Market Arrivals of Bhendi in Grade wise Rythu Bazaars during the period from 2008 – 2013:

The extent of month wise variability in quantity arrivals of Bhendi Crop in selected Rythu Bazaars has been brought out in the present table.
Table – 3.6
Month wise Fluctuations in Market Arrivals of Bhendi among different grades of Rythu Bazaars during the period from 2008 – 2013

<table>
<thead>
<tr>
<th>Name of the Market</th>
<th>A Gr Rythu</th>
<th>B Gr Rythu</th>
<th>C Grade Rythu</th>
<th>D Gr Rythu</th>
</tr>
</thead>
<tbody>
<tr>
<td>Name of the Market</td>
<td>Mean</td>
<td>CV</td>
<td>CVTL</td>
<td>Mean</td>
</tr>
<tr>
<td>February</td>
<td>639</td>
<td>47.341</td>
<td>23.324</td>
<td>319</td>
</tr>
<tr>
<td>May</td>
<td>871</td>
<td>12.629</td>
<td>1.559</td>
<td>449</td>
</tr>
<tr>
<td>November</td>
<td>864</td>
<td>11.405</td>
<td>5.209</td>
<td>422</td>
</tr>
</tbody>
</table>

Source: Directorate of Marketing, Rythu Bazaars, Andhra Pradesh
Table 3.4 reveals that the extent of fluctuation in quantity arrivals of Bhendi, measured in terms of coefficient of variation, highest was noticed in the month of February followed by January in all grades of Rythu Bazaars viz., ‘A’ Grade Rythu Bazaar with 47.341% and 36.828%, ‘B’ Grade Rythu Bazaar with 49.823% and 45.558%, ‘C’ Grade Rythu Bazaar with 49.084% and 38.011%; and ‘D’ Grade Rythu Bazaars with 49.487% and 29.182% respectively. As against this, the lowest variation in quantity arrivals of Bhendi measured in terms of coefficient of variation was noticed in the month of October in ‘A’ Grade (8.973%), May (15.621%) and November (15.862%) in ‘B’ Grade, May in ‘C’ Grade (17.692%) and March in ‘D’ Grade (8.635%) Rythu Bazaars.

The highest extent of variation in quantity arrivals of Brinjal measured in terms of coefficient of variation around trend line was noticed again in the month of February followed by January in all grades of Rythu Bazaars viz., ‘A’ Grade with 23.324% and 18.482%; ‘B’ Grade with 41.350% and 40.551%, ‘D’ Grade with 36.515% and 21.853%; whereas the same was noticed in the ‘C’ Grade Rythu Bazaars in the month of November with 26.683% and as against this, lowest extent of variation in quantity arrivals of Bhendi was noticed in the month of June (0.674%) and August (0.807%) in ‘A’ Grade RB respectively; in the month of October in ‘B’ Grade Rythu Bazaar with 8.347%; in the month of January in ‘C’ Grade Rythu Bazaar with 1.659%; and November (0.141%) in ‘D’ Grade Rythu Bazaars.

The average monthly arrivals of Bhendi was observed highest and lowest in the month of July and February in all Grades of Rythu Bazaars from A Grade to D Grade – 1077, 463, 119 and 116 quintals respectively and 639, 319, 81 and 82 quintals respectively.

It is concluded that the highest extent of variations in quantity arrivals of Bhendi measured in terms of coefficient of variation was observed uniform in the months of February and January whereas extent variation varies among different grades of Rythu Bazaars. It is also observed from the table that the extent of variation in quantity arrivals of Bhendi in terms of coefficient of variation around trend line was not uniform among different grades of Rythu Bazaars in different seasons.

3.7 Fluctuations in Market Arrivals of Green Chillies in Selected Rythu Bazaars during the period between 2008 and 2013:

The extent of variability in quantity arrivals in selected Rythu Bazaars for Bhendi has been brought out in the present table.
<table>
<thead>
<tr>
<th>S.No.</th>
<th>Name of the Rythu</th>
<th>Mean Arrivals</th>
<th>Coefficient of Variation (CV) %</th>
<th>CV around Trend Line</th>
</tr>
</thead>
<tbody>
<tr>
<td>A1</td>
<td>C Camp RB – Kurnool</td>
<td>544</td>
<td>30.98103</td>
<td>6.475685</td>
</tr>
<tr>
<td>A2</td>
<td>Erragadda RB – Hyderabad</td>
<td>1202</td>
<td>24.56466</td>
<td>4.997186</td>
</tr>
<tr>
<td>B1</td>
<td>Arts College – Rajahmundry</td>
<td>290</td>
<td>25.59321</td>
<td>15.85466</td>
</tr>
<tr>
<td>B2</td>
<td>SBI Colony – Rajahmundry</td>
<td>234</td>
<td>27.09373</td>
<td>9.90597</td>
</tr>
<tr>
<td>B3</td>
<td>Quarry Centre – Rajahmundry</td>
<td>307</td>
<td>31.96702</td>
<td>14.48873</td>
</tr>
<tr>
<td>C1</td>
<td>Anantapuramu</td>
<td>246</td>
<td>51.66441</td>
<td>37.53728</td>
</tr>
<tr>
<td>C2</td>
<td>Kothapet – Kurnool</td>
<td>155</td>
<td>25.53704</td>
<td>13.90211</td>
</tr>
<tr>
<td>C3</td>
<td>Play Ground – Nellore</td>
<td>133</td>
<td>62.88306</td>
<td>48.48843</td>
</tr>
<tr>
<td>C4</td>
<td>Kavali – Nellore</td>
<td>232</td>
<td>22.852</td>
<td>5.37846</td>
</tr>
<tr>
<td>D1</td>
<td>AA Nagar – Kurnool</td>
<td>131</td>
<td>27.12666</td>
<td>16.69228</td>
</tr>
<tr>
<td>D2</td>
<td>Excise Colony – Warangal</td>
<td>89</td>
<td>21.71031</td>
<td>11.93011</td>
</tr>
<tr>
<td>D3</td>
<td>Fatima Nagar – Warangal</td>
<td>62</td>
<td>25.03032</td>
<td>19.2834</td>
</tr>
<tr>
<td>D4</td>
<td>Fatekh Khan Pet – Nellore</td>
<td>73</td>
<td>71.23913</td>
<td>57.3649</td>
</tr>
<tr>
<td>D5</td>
<td>Gudur Mncpl Park - Nellore</td>
<td>168</td>
<td>49.9955</td>
<td>9.721577</td>
</tr>
</tbody>
</table>

**Source:** Directorate of Marketing, Rythu Bazaars, Andhra Pradesh
The average monthly arrival of Green Chillies was noted highest in Erragadda Rythu Bazaar with 1202 quintals per month followed by C Camp Rythu Bazaar in A Grade Rythu Bazaar. The highest average monthly arrivals of Green Chillies was noted in Quarry Centre – Rajahmundry Rythu Bazaar whereas it was found lowest in SBI Colony – Rajahmundry in B Grade Rythu Bazaar. The highest average monthly arrival of Green Chillies was noted in Anantapuramu Rythu Bazaar and lowest was noted in Play Ground – Nellore with 246 and 133 quintals respectively in C Grade Rythu Bazaar. In D Grade Rythu Bazaars, highest average monthly arrival of Green Chillies was noted in AA Nagar – Kurnool and lowest was noted in Fatima Nagar – Warangal Rythu Bazaar.

The extent variation in quantity arrivals of Green Chillies, measured both in terms of Coefficient of Variation and Coefficient of Variation around Trend Line, was noted highest in Fateh Khan Pet – Nellore Rythu Bazaar followed by Play Ground Rythu Bazaar, Anantapuramu Rythu Bazaar and as against this, the extent of variation in terms of both was observed lowest in Kavali – Nellore Rythu Bazaar.

3.8 Season wise Fluctuations in Market Arrivals of Green Chillies in Grade wise Rythu Bazaars during the period from 2008 – 2013:

The extent of month wise variability in quantity arrivals of Bhendi Crop in selected Rythu Bazaars has been brought out in the present table.

Table 3.8 reveals that the extent of fluctuation in quantity arrivals of Green Chillies, measured in terms of coefficient of variation, highest was noticed in the month of February followed by January in all grades of Rythu Bazaars viz., ‘A’ Grade Rythu Bazaar with 46.987% and 38.940%, ‘B’ Grade Rythu Bazaar with 46.327% and 39.662%, ‘C’ Grade Rythu Bazaar with 45.484% and 34.688%; and ‘D’ Grade Rythu Bazaars with 44.333% and 33.340% respectively. As against this, the lowest variation in quantity arrivals of Green Chillies measured in terms of coefficient of variation was noticed in the month of April in ‘A’ Grade (9.206%), June (5.454%) in ‘B’ Grade, March in ‘C’ Grade (12.972%) and March in ‘D’ Grade (12.537%) Rythu Bazaars.
<table>
<thead>
<tr>
<th>Name of the Market</th>
<th>A Gr Rythu</th>
<th>B Gr Rythu</th>
<th>C Grade Rythu</th>
<th>D Gr Rythu</th>
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</thead>
<tbody>
<tr>
<td></td>
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<td>CVTL</td>
<td>Mean</td>
</tr>
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<td>813</td>
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<td>82</td>
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<tr>
<td>March</td>
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</tr>
<tr>
<td>June</td>
<td>833</td>
<td>22.750</td>
<td>0.607</td>
<td>282</td>
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<tr>
<td></td>
<td>112</td>
<td>22.633</td>
<td>13.204</td>
<td></td>
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<tr>
<td></td>
<td>119</td>
<td>23.911</td>
<td>12.613</td>
<td></td>
</tr>
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<td>August</td>
<td>883</td>
<td>19.676</td>
<td>5.705</td>
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<td></td>
<td>116</td>
<td>25.195</td>
<td>9.917</td>
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<td>September</td>
<td>867</td>
<td>11.009</td>
<td>2.084</td>
<td>287</td>
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<td>23.949</td>
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<td></td>
<td>102</td>
<td>16.896</td>
<td>8.410</td>
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<td>November</td>
<td>1017</td>
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<td>1.307</td>
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<td></td>
<td>113</td>
<td>13.689</td>
<td>10.427</td>
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<td>December</td>
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<td>109</td>
<td>14.281</td>
<td>9.402</td>
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</tr>
</tbody>
</table>

Source: Directorate of Marketing, Rythu Bazaars, Andhra Pradesh
The highest extent of variation in quantity arrivals of Green Chillies measured in terms of coefficient of variation around trend line was noticed again in the month of February followed by January in all grades of Rythu Bazaars viz., ‘A’ Grade with 25.732% and 14.894%; ‘B’ Grade with 35.129% and 31.052%, ‘D’ Grade with 28.306% and 19.260%; whereas the same was noticed in the ‘C’ Grade Rythu Bazaars in the month of September with 36.730% followed by June (27.758%) and as against this, lowest extent of variation in quantity arrivals of Green Chillies was noticed in the month of June (0.607%) followed by November (1.307%) in ‘A’ Grade RB respectively; in the month of August (0.006%) and September (0.423%) in ‘B’ Grade Rythu Bazaar; in the month of January in ‘C’ Grade Rythu Bazaar with 3.049%; and April (0.227%) in ‘D’ Grade Rythu Bazaars.

The average monthly arrivals of Green Chillies was noted highest in the month of November in A Grade Rythu Bazaar with 1017 quintals, in the month of July in B, C and D Gr RBs with 321, 222 and 119 quintals respectively as against this, the same was noted least in the month of February in A, B, C and D Grade Rythu Bazaars with 703, 235, 165 and 82 quintals respectively.

It is concluded that the highest extent of variations in quantity arrivals of Green Chillies measured both in terms of coefficient of variation and coefficient of variation around trend line was observed same in the months of February and January, whereas extent variation varies among different grades of Rythu Bazaars.

3.9 Fluctuations in Market Arrivals of total vegetables in Selected Rythu Bazaars during the period between 2008 and 2013:

The extent of variability in quantity arrivals in selected Rythu Bazaars for total vegetables has been brought out in the present table.
### Table – 3.9

<table>
<thead>
<tr>
<th>S.No.</th>
<th>Name of the Rythu</th>
<th>Mean Arrivals</th>
<th>Coefficient of Variation (CV) %</th>
<th>CV around Trend Line</th>
</tr>
</thead>
<tbody>
<tr>
<td>A1</td>
<td>C Camp RB – Kurnool</td>
<td>15276</td>
<td>32.20808</td>
<td>15.11903</td>
</tr>
<tr>
<td>A2</td>
<td>Erragadda RB – Hyderabad</td>
<td>55595</td>
<td>30.8126</td>
<td>24.73471</td>
</tr>
<tr>
<td>B1</td>
<td>Arts College – Rajahmundry</td>
<td>5965</td>
<td>26.20797</td>
<td>15.44741</td>
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<tr>
<td>B2</td>
<td>SBI Colony – Rajahmundry</td>
<td>5682</td>
<td>22.66917</td>
<td>7.693281</td>
</tr>
<tr>
<td>B3</td>
<td>Quarry Centre – Rajahmundry</td>
<td>6981</td>
<td>35.02307</td>
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</tr>
<tr>
<td>C1</td>
<td>Anantapuramu</td>
<td>2596</td>
<td>38.42391</td>
<td>20.4245</td>
</tr>
<tr>
<td>C2</td>
<td>Kothapet – Kurnool</td>
<td>2844</td>
<td>22.44878</td>
<td>5.997259</td>
</tr>
<tr>
<td>C3</td>
<td>Play Ground – Nellore</td>
<td>2272</td>
<td>46.45898</td>
<td>33.07181</td>
</tr>
<tr>
<td>C4</td>
<td>Kavali – Nellore</td>
<td>3559</td>
<td>21.32912</td>
<td>1.248721</td>
</tr>
<tr>
<td>D1</td>
<td>AA Nagar – Kurnool</td>
<td>2041</td>
<td>38.38767</td>
<td>31.49687</td>
</tr>
<tr>
<td>D2</td>
<td>Excise Colony – Warangal</td>
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<td>26.91271</td>
<td>20.56486</td>
</tr>
<tr>
<td>D3</td>
<td>Fatima Nagar – Warangal</td>
<td>1349</td>
<td>27.20505</td>
<td>22.98122</td>
</tr>
<tr>
<td>D4</td>
<td>Fatekhkhan Pet – Nellore</td>
<td>1206</td>
<td>54.40835</td>
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<tr>
<td>D5</td>
<td>Gudur Mncpl Park - Nellore</td>
<td>2295</td>
<td>41.54642</td>
<td>4.503552</td>
</tr>
</tbody>
</table>

**Source:** Directorate of Marketing, Rythu Bazaars, Andhra Pradesh
The average monthly arrival of total vegetables was noticed highest in Erragadda Rythu Bazaar with 55,595 quintals in ‘A’ Grade Rythu Bazaar, Quarry Centre-Rajahmundry in B Grade Rythu Bazaar with 6,981 quintals, Kavali-Nellore Rythu Bazaar in C Grade Rythu Bazaar with 3,559 quintals and Gudur Municipal Park Rythu Bazaar with 2,295 quintals in D Grade Rythu Bazaar. As against this, the average monthly arrival of total vegetables was noticed lowest in C Camp Rythu Bazaar with 15,276 quintals, SBI Colony – Rajahmundry Rythu Bazaar with 5,682 quintals in B Grade Rythu Bazaar, Play Ground – Nellore RB with 2,272 quintals in C Grade RB and Excise Colony – Warangal RB with 1,191 quintals in D Grade Rythu Bazaar.

The extent of variation in quantity arrivals of total vegetables, measured in terms of both coefficient of variation and coefficient of variation around trend line, was noticed highest in Fatekhhan Pet – Nellore Rythu Bazaar followed by Play Ground-Nellore Rythu Bazaar, Anantapuramu, AA Nagar-Kurnool Rythu Bazaars whereas it was noticed lowest in Kavali – Nellore Rythu Bazaar.

3.10. Month wise Fluctuations in Market Arrivals of Total Vegetables among Different Grades of Rythu Bazaars during the period between 2008 - 13:

The extent of month wise variability in quantity arrivals of total vegetables among different grades of Rythu Bazaars has been brought out in the present table-3.10.

Average monthly arrivals of total vegetables vary from 31,006 to 38,833 quintals in A Grade Rythu Bazaars, 5,301 to 6,954 quintals in B Grade Rythu Bazaars, 2,253 to 3,176 quintals in C Grade Rythu Bazaars and 1,408 to 1,966 quintals in D Grade Rythu Bazaars. It is also clear that highest monthly average vegetables was noticed in the month of February and least was noticed in the month of July. The extent of variation in quantity arrivals of total vegetables, measured in terms of both coefficient of variation and coefficient of variation around trend line, was noticed highest in the month of February followed by January, March months in all Grades of Rythu Bazaars.

3.11 Fluctuations in the Prices of Rythu Bazaars of Tomato Crop during the period between 2008 and 2013:

The extent of month wise variability in the prices of Rythu Bazaars of Tomato Crop among different grades of Rythu Bazaars has been brought out in the present table-3.11.
Table – 3.10
Month wise variations in Market arrivals of total vegetables among different Grades of Rythu Bazaars during the period between 2008 and 2013

<table>
<thead>
<tr>
<th>Name of the Market</th>
<th>A Gr Rythu</th>
<th>B Gr Rythu</th>
<th>C Grade Rythu</th>
<th>D Gr Rythu</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Mean</td>
<td>CV</td>
<td>CVTL</td>
<td>Mean</td>
</tr>
<tr>
<td>January</td>
<td>31037</td>
<td>48.610</td>
<td>40.594</td>
<td>5682</td>
</tr>
<tr>
<td>February</td>
<td>31006</td>
<td>50.421</td>
<td>41.336</td>
<td>5301</td>
</tr>
<tr>
<td>March</td>
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<td>41.539</td>
<td>35.577</td>
<td>5993</td>
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<tr>
<td>April</td>
<td>33422</td>
<td>25.932</td>
<td>23.045</td>
<td>5895</td>
</tr>
<tr>
<td>May</td>
<td>34415</td>
<td>27.841</td>
<td>18.747</td>
<td>6826</td>
</tr>
<tr>
<td>October</td>
<td>36679</td>
<td>23.634</td>
<td>19.093</td>
<td>6334</td>
</tr>
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</table>

Source: Directorate of Marketing, Rythu Bazaars, Andhra Pradesh
<table>
<thead>
<tr>
<th>Name of the Market</th>
<th>A Gr Rythu Bazaar</th>
<th>B Gr Rythu Bazaar</th>
<th>C Grade Rythu Bazaar</th>
<th>D Gr Rythu Bazaar</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Mean</td>
<td>CV</td>
<td>CVTL</td>
<td>Mean</td>
</tr>
<tr>
<td>January</td>
<td>6.86</td>
<td>61.770</td>
<td>5.818</td>
<td>10.24</td>
</tr>
<tr>
<td>February</td>
<td>4.89</td>
<td>27.323</td>
<td>4.315</td>
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<tr>
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<td>55.294</td>
<td>3.452</td>
<td>7.90</td>
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<tr>
<td>April</td>
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<td>July</td>
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<tr>
<td>October</td>
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<td>53.116</td>
<td>0.471</td>
<td>15.55</td>
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<tr>
<td>November</td>
<td>14.38</td>
<td>34.850</td>
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<tr>
<td>December</td>
<td>9.65</td>
<td>44.703</td>
<td>5.523</td>
<td>13.24</td>
</tr>
</tbody>
</table>

Source: Directorate of Marketing, Rythu Bazaars, Andhra Pradesh
The extent variation in prices of Rythu Bazaars for Tomato crop in terms of coefficient of variation was noticed highest in the months of January, March, May, June, July and October months in all Grades of Rythu Bazaars and it was extended to November in A Grade Rythu Bazaar only and the same was noticed lowest in the month of August in A Grade Rythu Bazaar, April in B Grade Rythu Bazaar, September in C Grade and D Grade Rythu Bazaars.

The extent of variation in prices of Rythu Bazaars in terms of coefficient of variation around trend line was noticed highest in the month of May to July months in all Grades of Rythu Bazaars.

The mean monthly price of Rythu Bazaars for Tomato Crop varies from Rs.4.89/- to Rs.18.52/- in A Grade Rythu Bazaar, varies from Rs.7.51/- to Rs.18.14/- in B Grade Rythu Bazaar, varies from Rs.6.23/- to Rs.19.11/- in C Grade Rythu Bazaars, varies from Rs.6.52/- to Rs.19.39/- in D Grade Rythu Bazaars during a period of one year.

It is concluded from the table that the mean monthly price of Rythu Bazaars was highest in the months of April to June and October and November months in all Grades of Rythu Bazaars but extent of variation was noticed very meagre among the Rythu Bazaars.

3.12 Season wise Fluctuations in Price Differences of Tomato between Local Market Rate and Rythu Rates during the period between 2008 and 2013:

The extent of month wise variability in price differences of Tomato between Local Market Rate and Rythu Bazaar Rates has been brought out in the present table.

The extent of variation in price differences of Tomato between Local market rate and Rythu Bazaar rate in terms of both Coefficient of Variation and Coefficient of Variation around Trend Line was noticed highest in the months of April, October to December months in A Grade Rythu Bazaars, in the months of July in B Grade Rythu Bazaar, May and June in C Grade Rythu Bazaar and July and May in D Grade Rythu Bazaars.
### Table – 3.12
Monthly Variation in Price Differences of Tomato between Local Market Rate and Rythu Bazaar Rates during the period from between 2008 and 2013

<table>
<thead>
<tr>
<th>Name of the Market</th>
<th>A Gr Rythu</th>
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<th></th>
<th>B Gr Rythu</th>
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<th>C Grade Rythu</th>
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<th></th>
<th>D Gr Rythu</th>
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<td>CVTL</td>
<td>Mean</td>
<td>CV</td>
<td>CVTL</td>
<td>Mean</td>
<td>CV</td>
<td>CVTL</td>
<td>Mean</td>
</tr>
<tr>
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</tr>
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<td>2.52</td>
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<td>20.869</td>
<td>3.27</td>
<td>12.850</td>
<td>1.196</td>
<td>1.43</td>
<td>18.616</td>
<td>10.057</td>
<td>1.73</td>
<td>20.106</td>
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<tr>
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<td>36.390</td>
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<td>10.033</td>
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<td>1.48</td>
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<td>2.07</td>
<td>17.918</td>
<td>13.933</td>
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<td>1.70</td>
<td>11.862</td>
<td>3.336</td>
<td>2.66</td>
<td>24.992</td>
<td>17.657</td>
</tr>
</tbody>
</table>

**Source:** Directorate of Marketing, Rythu Bazaars, Andhra Pradesh
The mean monthly price differences of Tomato between Local market rate and Rythu Bazaar rate varies from Rs.2.49/- to Rs.2.80/- in A Grade Rythu Bazaar, Rs.3.22/- to Rs.4.05/- in B Grade Rythu Bazaars, Rs.1.43/- to Rs.1.70/- in C Grade Rythu Bazaar, Rs.1.73/- to Rs.2.75/- in D Grade Rythu Bazaars. The mean monthly price was noticed highest in the month of January followed by November, December in A Grade Rythu Bazaar, in the month of November followed by December, July in B Grade Rythu Bazaar, in the month of November followed by June, October, December in C Grade Rythu Bazaars and June followed by November, July in D Grade Rythu Bazaars.

It is concluded from the table that the extent of variation in price differences of Tomato between Local Market Rate and Rythu Bazaar Rate in terms of Coefficient of variation was not uniform but in same months.

3.13 Fluctuations in the Rythu Bazaar Prices of Brinjal during the period between 2008 and 2013:

The extent of month wise variability in Rythu Bazaar prices of Brinjal has been brought out in the present table.

The mean monthly price of Brinjal at Rythu Bazaars varies from Rs.9.02/- to Rs.15.84/- in A Grade Rythu Bazaars, from Rs.9.26/- to 16.46/- in B Grade Rythu Bazaars, Rs.11.32/- to 18.78/- in C Grade Rythu Bazaar and Rs.10.42/- to 19.02/- in D Grade Rythu Bazaars. The least price (Rs.9.02/-) was noticed in A Grade Rythu Bazaar and highest price (Rs.19,02/-) was noticed in the D Grade Rythu Bazaars. The mean monthly price of Brinjal was noticed highest in the month of November followed by August, October in A Grade Rythu Bazaar, in the month of November followed by December, June in B Grade Rythu Bazaar, in the month of November followed by August, September, October and December in C Grade Rythu Bazaar and in the month of November followed by August, September and October & December in D Grade Rythu Bazaars.

The extent of variation in prices of Brinjal at Rythu Bazaars was noticed highest, in terms of both Coefficient of Variation and Coefficient of Variation around trend line, in the months of August, November, September in A Grade Rythu Bazaar, in the months of January followed by June, November, August in B Grade Rythu Bazaars, in the month of August followed by September in both C and D Grade Rythu Bazaars.
<table>
<thead>
<tr>
<th>Name of the Market</th>
<th>A Gr Rythu Bazaar</th>
<th>B Gr Rythu Bazaar</th>
<th>C Grade Rythu Bazaar</th>
<th>D Gr Rythu Bazaar</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Mean</td>
<td>CV</td>
<td>CVTL</td>
<td>Mean</td>
</tr>
<tr>
<td>February</td>
<td>9.05</td>
<td>41.467</td>
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<td>25.591</td>
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<td>12.85</td>
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</table>

**Source:** Directorate of Marketing, Rythu Bazaars, Andhra Pradesh
It is concluded from the table that the mean monthly Rythu Bazaar prices of Brinjal among different grades of Rythu Bazaars varies from Rs.9.02/- to Rs.19.02/- during a year from January to December.

3.14 **Season wise Fluctuations in Price Differences of Brinjal between Local Market Rate and Rythu Rates during the period between 2008 and 2013:**

The extent of month wise variability in price differences of Brinjal between Local Market Rate and Rythu Bazaar Rates has been brought out in the present table - 3.14.

The extent of variation of price difference between Rythu Bazaar Rates and Local Market Rates of Brinjal Crop varies 19.39 per cent to 40.51 per cent in A Grade Rythu Bazaars, 12.510 per cent to 21.489 per cent in B Grade Rythu Bazaar, 11.220 per cent to 21.653 per cent in C Grade Rythu Bazaar, 18.884 per cent to 37.063 per cent in D Grade Rythu Bazaars. On the other hand, the extent of variation of price difference between Rythu Bazaar Rates and Local Market Rates of Brinjal crop in terms of Coefficient of Variation around Trend Line varies from 15.531 per cent to 28.123 per cent in A Grade Rythu Bazaar, 1.654 per cent to 19.235 per cent in B Grade Rythu Bazaar, 5.670 per cent to 16.781 per cent in C Grade Rythu Bazaar and 6.989 per cent to 30.837 per cent in D Grade Rythu Bazaars.

The monthly mean price difference between Rythu Bazaar Rates and Local Market Rates of Brinjal Crop varies from Rs.2.51/- to Rs.2.95/- {44 paisa} in A Grade Rythu Bazaar, Rs.3.30/- to Rs.3.90/- {60 paisa} in B Grade Rythu Bazaars, Rs.1.56/- to Rs.1.74/- {16 paisa} in C Grade Rythu Bazaar, Rs.2.13/- to Rs.2.68/- {45 paisa} in D Grade Rythu Bazaars. The difference of two months to the preceding month for the mean monthly price difference between Rythu Bazaar Rates and Local Market Rates for Brinjal Crop was noticed highest with 13 paisa between the months of February and March followed by 12 paisa between the January and February months during a year.

3.15 **Fluctuations in Prices Bhendi among different grades of Rythu Bazaars during the period between 2008 and 2013:**

The extent of month wise variability in price differences of Brinjal between Local Market Rate and Rythu Bazaar Rates has been brought out in the present table – 3.15.
### Table – 3.14
Month wise Variations in Price Differences of Brinjal between Local Market Rate and Rythu Bazaar Rates during the period between 2008 and 2013

<table>
<thead>
<tr>
<th>Name of the Market</th>
<th>A Gr Rythu</th>
<th></th>
<th></th>
<th>B Gr Rythu</th>
<th></th>
<th></th>
<th>C Grade Rythu</th>
<th></th>
<th></th>
<th>D Gr Rythu</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Mean</td>
<td>CV</td>
<td>CVTL</td>
<td>Mean</td>
<td>CV</td>
<td>CVTL</td>
<td>Mean</td>
<td>CV</td>
<td>CVTL</td>
<td>Mean</td>
<td>CV</td>
<td>CVTL</td>
</tr>
<tr>
<td>January</td>
<td>2.95</td>
<td>29.777</td>
<td>24.433</td>
<td>3.54</td>
<td>17.188</td>
<td>12.688</td>
<td>1.74</td>
<td>21.653</td>
<td>13.766</td>
<td>2.38</td>
<td>22.201</td>
<td>18.765</td>
</tr>
<tr>
<td>August</td>
<td>2.54</td>
<td>27.043</td>
<td>19.015</td>
<td>3.36</td>
<td>17.147</td>
<td>16.552</td>
<td>1.71</td>
<td>17.311</td>
<td>13.342</td>
<td>2.50</td>
<td>32.836</td>
<td>30.837</td>
</tr>
<tr>
<td>November</td>
<td>2.70</td>
<td>34.113</td>
<td>23.858</td>
<td>3.90</td>
<td>12.698</td>
<td>10.784</td>
<td>1.66</td>
<td>13.321</td>
<td>5.670</td>
<td>2.63</td>
<td>32.192</td>
<td>23.981</td>
</tr>
<tr>
<td>December</td>
<td>2.70</td>
<td>34.763</td>
<td>27.846</td>
<td>3.66</td>
<td>10.326</td>
<td>6.722</td>
<td>1.74</td>
<td>10.875</td>
<td>6.929</td>
<td>2.41</td>
<td>35.684</td>
<td>24.805</td>
</tr>
</tbody>
</table>

Source: Directorate of Marketing, Rythu Bazaar, Andhra Pradesh
<table>
<thead>
<tr>
<th>Name of the Market</th>
<th>A Gr Rythu Bazaar</th>
<th>B Gr Rythu Bazaar</th>
<th>C Grade Rythu Bazaar</th>
<th>D Gr Rythu Bazaar</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Mean</td>
<td>CV</td>
<td>CVTL</td>
<td>Mean</td>
</tr>
</tbody>
</table>

Source: Directorate of Marketing, Rythu Bazaars, Andhra Pradesh
The mean monthly Rythu Bazaar price of Bhendi varies from Rs.14.41/- to Rs.21.95/- in A Grade Rythu Bazaar, Rs.11.58/- to Rs.20.99/- in B Grade Rythu Bazaar, Rs.12.23/- to 17.04/- in C Grade Rythu Bazaar, Rs.13.23/- to Rs.18.51/- in D Grade Rythu Bazaar. The mean price difference between the months was observed highest between the months of March - April, May - June, June - July, October - November in A Grade Rythu Bazaar, January - February, March – April, May – June, September – October, October – November, November – December, December – January in B Grade Rythu Bazaars, May – June, June – July, October – November in D Grade Rythu Bazaars and the mean price variation between the months was observed uniform in C Grade Rythu Bazaars.

3.16 Season wise Fluctuations in Price Differences of Bhendi between Local Market Rate and Rythu Rates during the period between 2008 and 2013:

The extent of month wise variability in price differences of Brinjal between Local Market Rate and Rythu Bazaar Rates has been brought out in the present table-3.16.

The monthly mean price differences of Bhendi between Local Market Rate and Rythu Bazaar rates varies from Rs.2.46/- to Rs.3.13/- {67 paisa} in A Grade Rythu Bazaar, Rs.3.43/- to Rs.4.01/- {58 paisa} in B Grade Rythu Bazaar, Rs.1.45/- to Rs.1.82/- {37 Paisa} in C Grade Rythu Bazaars, Rs.2.20/- to Rs.2.98/- {78 Paisa} in D Grade Rythu Bazaars. The monthly mean price differences of Bhendi between Local Market Rate and Rythu Bazaar Rate varies from Rs.1.45/- to Rs.4.01/- among different Grades of Rythu Bazaars. The monthly mean price differences of Bhendi between Local Market Rate and Rythu Bazaar Rate was noticed highest in the month of January followed by March, February in A Grade Rythu Bazaars, in the month of November followed by December, June, January, May and February in B Grade Rythu Bazaars, October followed by February, March, January and December in C Grade Rythu Bazaars, June followed by December, January, February in D Grade Rythu Bazaar.

3.17 Fluctuations in Rythu Bazaar Prices of Green Chillies among different Grades of Rythu Bazaars during the period between 2008 and 2013

The extent of month wise variability in Rythu Bazaar price for Green Chilies has been brought out in the present table-3.17.
Table – 3.16
Month wise Variations in Price Differences of Bhendi between Local Market Price and Rythu Bazaar Price during the period between 2008 and 2013

<table>
<thead>
<tr>
<th>Name of the Market</th>
<th>A Gr Rythu</th>
<th>B Gr Rythu</th>
<th>C Grade Rythu</th>
<th>D Gr Rythu</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Mean</td>
<td>CV</td>
<td>CVTL</td>
<td>Mean</td>
</tr>
<tr>
<td>March</td>
<td>2.89</td>
<td>34.156</td>
<td>30.538</td>
<td>3.64</td>
</tr>
<tr>
<td>April</td>
<td>2.82</td>
<td>42.110</td>
<td>32.690</td>
<td>3.70</td>
</tr>
<tr>
<td>November</td>
<td>2.64</td>
<td>30.562</td>
<td>22.575</td>
<td>4.01</td>
</tr>
<tr>
<td>December</td>
<td>2.66</td>
<td>34.452</td>
<td>29.004</td>
<td>3.96</td>
</tr>
</tbody>
</table>

Source: Directorate of Marketing, Rythu Bazaars, Andhra Pradesh
Table – 3.17

Variations in Rythu Bazaar Prices of Green Chillies and its variations among different Grades of Rythu Bazaars during the period between 2008 and 2013

<table>
<thead>
<tr>
<th>Name of the Market</th>
<th>A Gr Rythu Bazaar</th>
<th>B Gr Rythu Bazaar</th>
<th>C Grade Rythu Bazaar</th>
<th>D Gr Rythu Bazaar</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Mean</td>
<td>CV</td>
<td>CVTL</td>
<td>Mean</td>
</tr>
<tr>
<td>June</td>
<td>25.18</td>
<td>36.918</td>
<td>22.347</td>
<td>20.64</td>
</tr>
<tr>
<td>July</td>
<td>17.15</td>
<td>27.677</td>
<td>23.405</td>
<td>13.75</td>
</tr>
</tbody>
</table>

Source: Directorate of Marketing, Rythu Bazaars, Andhra Pradesh
The monthly mean prices in Rythu Bazaars for Green Chillies varies from Rs.12.13/- to Rs.25.18/- {Rs.3.03/-} in A Grade Rythu Bazaars, varies from Rs.10.78/- to Rs.20.64/- {Rs.9.86/-} in B Grade Rythu Bazaars, Rs.11.73/- to 21.70/- {Rs.9.93/-} in C Grade Rythu Bazaars, Rs.12.62/- to Rs.22.06/- {Rs.9.46/-} in D Grade Rythu Bazaars. The monthly mean price of Rythu Bazaars for Green Chillies varies from Rs.10.78/- to Rs.25.18/- {Rs.24.40/-} among different grades of Rythu Bazaars. The mean monthly prices of Rythu Bazaars for Green Chillies was noticed highest in the month of June followed by May, August in A Grade Rythu Bazaars, June followed by August in B Grade Rythu Bazaars, June followed by August, May in C Grade Rythu Bazaars and June followed by August in D Grade Rythu Bazaars.

3.18 Season wise Fluctuations in Price Differences of Green Chillies between Local Market Rate and Rythu Rates during the period between 2008-13:

The extent of month wise variability in price differences of Green Chillies between Local Market Rate and Rythu Bazaar Rates has been brought out in the present table – 3.18.

The monthly mean price differences between Rythu Bazaar Rates and Local Market Rates varies from Rs.2.52/- to Rs.3.01/- {49 Paisa} in A Grade Rythu Bazaars, from Rs.3.15/- to Rs.3.89/- {74 Paisa} in B Grade Rythu Bazaars, Rs.1.53/- to Rs.1.91/- {38 Paisa} in C Grade Rythu Bazaars, Rs.2.14/- to Rs.2.93/- {79 Paisa} in D Grade Rythu Bazaars. The monthly mean price differences between Rythu Bazaar Rates and Local Market Rates varies from Rs.1.53/- to Rs.3.89/- {2.46/-} among different Grades of Rythu Bazaars. The difference of monthly mean price differences between Rythu Bazaar Rates and Local Market Rates was noticed highest between the months of June – July (43 Paisa) in A Grade Rythu Bazaar, between April – May (51 Paisa) in B Grade Rythu Bazaars, between June – July (37 Paisa) in C Grade Rythu Bazaar, between May – June (27 Paisa) in D Grade Rythu Bazaars.
Table – 3.18
Month wise Variations in Price Differences of Bhendi between Local Market Rate and Rythu Bazaar Rates during the period from 2008 to 2013

<table>
<thead>
<tr>
<th>Name of the Market</th>
<th>A Gr Rythu</th>
<th>B Gr Rythu</th>
<th>C Grade Rythu</th>
<th>D Gr Rythu</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Mean</td>
<td>CV</td>
<td>CVTL</td>
<td>Mean</td>
</tr>
<tr>
<td>February</td>
<td>2.96</td>
<td>27.964</td>
<td>27.307</td>
<td>3.34</td>
</tr>
<tr>
<td>April</td>
<td>3.02</td>
<td>46.419</td>
<td>36.925</td>
<td>3.38</td>
</tr>
<tr>
<td>May</td>
<td>2.86</td>
<td>42.753</td>
<td>32.494</td>
<td>3.89</td>
</tr>
<tr>
<td>June</td>
<td>3.01</td>
<td>53.416</td>
<td>40.333</td>
<td>3.61</td>
</tr>
<tr>
<td>September</td>
<td>2.50</td>
<td>24.054</td>
<td>18.126</td>
<td>3.42</td>
</tr>
</tbody>
</table>

Source: Directorate of Marketing, Rythu Bazaars, Andhra Pradesh
The researcher tried to analyse the influence of price factors such as Rythu Bazaar prices, Local Market Prices and Price differences between Local Market Rate and Rythu Bazaar Rates (LMR – RBR) on the quantity arrivals of different selected commodities in different types of Rythu Bazaars. For this purpose, the researcher used Software Package for Social Sciences (SPSS) package for estimation of Multiple Linear Regression, which estimates the influence of price factors on quantity arrivals through enter method.

The following sub sections deal with Regression analysis for specific selected product for analysis.

**Tomato Crop:**

The Regression estimates for Tomato crop arrivals into different Rythu Bazaars have been given in table – 3.20.

It is inferred from the table that the price factors included in the model have negligible influence on the arrivals in most of the Rythu Bazaars except Erragadda - Hyderabad, Kavali – Nellore and Fatima Nagar - Warangal. The value of Coefficient of Determination (R²) indicate that the variation in quantity arrivals of Tomato has been influenced by 25.5 per cent price factors at both Erragadda – Hyderabad, Kavali – Nellore Rythu Bazaars followed by 24.7 per cent of price factors at Fatima Nagar – Warangal Rythu Bazaars. In the case of other Rythu Bazaars, 16.3 per cent variation in the arrivals of Tomato was explained by price factors in SBI Colony – Rajahmundry, the variation in quantity arrivals of Tomato has been influenced by 14.5 per cent of price factors at Play Ground – Nellore Rythu Bazaar, 13.7 per cent variation in the arrivals of Tomato was explained by price factors in C Camp Rythu Bazaar – Kurnool and 10.8 per cent variations in arrivals of Tomato was explained by price factors in the case of Fatekhhan Pet – Nellore whereas in rest of the Rythu Bazaars the influence of price factors on quantity arrivals of Tomato is negligible and less than 10 per cent. The above analysis confirms that the non price factors have high influence on market arrivals than price factors in the case of Tomato in Rythu Bazaars.
### Table – 3.19
Quantity Arrivals of Tomato in relation to Difference of Price between Rythu Bazaar and Local Market during 2008 and 2013

<table>
<thead>
<tr>
<th>S.No.</th>
<th>Name of the Rythu</th>
<th>Constant Value</th>
<th>Coefficient of Difference of Price</th>
<th>Coefficient of RB Rate</th>
<th>Coefficient of Local Market</th>
<th>F Value</th>
<th>$R^2$ Value</th>
<th>Durbin Watson (DW) Statistic</th>
</tr>
</thead>
<tbody>
<tr>
<td>A1</td>
<td>C Camp RB – Kurnool</td>
<td>1803.585</td>
<td>119.437 (0.790*)</td>
<td>---</td>
<td>-22.960 (-3.155**)</td>
<td>5.461</td>
<td>0.137</td>
<td>0.604</td>
</tr>
<tr>
<td>A2</td>
<td>Erragadda RB – Hyderabad</td>
<td>3085.708</td>
<td>-234.198 (-4.073**)</td>
<td>-35.599 (-2.369**)</td>
<td>---</td>
<td>11.811</td>
<td>0.255</td>
<td>0.549</td>
</tr>
<tr>
<td>B1</td>
<td>Arts College – Rajahmundry</td>
<td>356.942</td>
<td>-9.856 (-0.404*)</td>
<td>0.676</td>
<td>(0.287*)</td>
<td>0.082</td>
<td>0.002</td>
<td>0.569</td>
</tr>
<tr>
<td>B2</td>
<td>SBI Colony – Rajahmundry</td>
<td>261.674</td>
<td>59.957 (1.858*)</td>
<td>-9.183</td>
<td>---</td>
<td>6.738</td>
<td>0.163</td>
<td>0.473</td>
</tr>
<tr>
<td>B3</td>
<td>Quarry Centre – Rajahmundry</td>
<td>334.834</td>
<td>52.923 (1.149*)</td>
<td>-1.133</td>
<td>(-0.252*)</td>
<td>---</td>
<td>1.168</td>
<td>0.033</td>
</tr>
<tr>
<td>C1</td>
<td>Anantapuramu</td>
<td>255.109</td>
<td>18.039 (0.413*)</td>
<td>-3.847</td>
<td>---</td>
<td>2.551</td>
<td>0.069</td>
<td>0.682</td>
</tr>
<tr>
<td>C2</td>
<td>Kothapet – Kurnool</td>
<td>595.716</td>
<td>31.071 (0.692*)</td>
<td>0.438</td>
<td>-0.784 (0.301*)</td>
<td>0.202</td>
<td>0.009</td>
<td>1.058</td>
</tr>
<tr>
<td>C3</td>
<td>Play Ground – Nellore</td>
<td>595.724</td>
<td>37.871 (0.804*)</td>
<td>-9.873</td>
<td>---</td>
<td>5.841</td>
<td>0.145</td>
<td>0.981</td>
</tr>
<tr>
<td>C4</td>
<td>Kavali – Nellore</td>
<td>1181.493</td>
<td>136.785 (1.637*)</td>
<td>-24.581</td>
<td>---</td>
<td>13.159</td>
<td>0.255</td>
<td>1.181</td>
</tr>
<tr>
<td>D1</td>
<td>AA Nagar – Kurnool</td>
<td>506.864</td>
<td>113.479 (0.808*)</td>
<td>199.590</td>
<td>-196.432 (-1.325*)</td>
<td>2.384</td>
<td>0.095</td>
<td>0.276</td>
</tr>
<tr>
<td>D2</td>
<td>Excise Colony – Warangal</td>
<td>506.864</td>
<td>17.396 (1.464*)</td>
<td>-0.380</td>
<td>(-0.214*)</td>
<td>---</td>
<td>2.384</td>
<td>0.095</td>
</tr>
<tr>
<td>D3</td>
<td>Fatima Nagar – Warangal</td>
<td>122.010</td>
<td>30.578 (3.089**)</td>
<td>-1.065</td>
<td>(-0.694*)</td>
<td>---</td>
<td>11.295</td>
<td>0.247</td>
</tr>
<tr>
<td>D4</td>
<td>Fatehkhan Pet – Nellore</td>
<td>291.934</td>
<td>6.826 (0.309*)</td>
<td>-4.530</td>
<td>(-2.748**)</td>
<td>---</td>
<td>4.165</td>
<td>0.108</td>
</tr>
<tr>
<td>D5</td>
<td>Gudur Mncpl Park – Nellore</td>
<td>354.855</td>
<td>104.479 (1.771*)</td>
<td>-2.538</td>
<td>(-0.807*)</td>
<td>---</td>
<td>1.578</td>
<td>0.044</td>
</tr>
</tbody>
</table>

* values in brackets indicate at 2 percent significant level and ** values in brackets indicate at 5 per cent significant level.

Source: Directorate of Marketing, Rythu Bazaars, Andhra Pradesh
The coefficient of Rythu Bazaar Price of Tomato explains its influence on quantity arrivals into Rythu Bazaars. Rythu Bazaar price of Tomato did not have significant influence on Quantity arrivals of Tomato into C Camp – Kurnool Rythu Bazaar. The coefficient of Rythu Bazaar price is the highest influence at 199.590 in the case of AA Nagar RB – Kurnool followed by Erragadda Rythu Bazaar at -35.599; Kavali – Nellore at -24.581 whereas in rest of the Rythu Bazaars the influencing value is less than 10. However, Coefficient of RB Price has both negative and positive influences on quantity arrivals of Tomato into the Rythu Bazaars. It has positive influence in AA Nagar – Kurnool and Kothapet – Kurnool Rythu Bazaar in that order from highest (199.590) to lowest (0.438). On the other hand, the Rythu Bazaar price has highest negative influence on the arrivals of Tomato into the Erragadda – Hyderabad, Kavali with -35.599 whereas it was lowest negative influence on the arrivals of Tomato into the Excise Colony – Warangal with only 0.380.

In the case of the coefficient of Local Market Price, it is found that is has negative influence on the arrivals of Tomato into AA Nagar – Kurnool (-196.432), C Camp – Kurnool (-22.960), Kothapeta – Kurnool (-0.784). In the case of other Rythu Bazaars, the Local Market Price is not having statistically significant influence.

The Coefficient of difference of price between Local Market Price and Rythu Bazaar Price of Tomato explains its influence on quantity arrivals into Rythu Bazaars. The coefficient of different of price between Local Market and Rythu Bazaar Market is the highest at -234.198 in the case of Erragadda – Hyderabad Rythu Bazaar followed by at 136.785 in Kavali – Nellore, C Camp RB – Kurnool at 119.437, AA Nagar – Kurnool at 113.479, Gudur Mncpl Park – Nellore at 104.479 the value is less than 50 whereas it was found least in Fatekhkan Pet – Nellore at 6.826. However, Coefficient of difference of price between Local Market Price and Rythu Bazaar price has both positive and negative influences on quantity arrivals of Tomato in to Rythu Bazaars. The coefficient of difference of Price between Local Market Price and Rythu Bazaars price has negative influence on quantity arrivals of Tomato in to Erragadda – Hyderabad and Arts College – Rajahmundry at -234.198 and -9.856 respectively. On the other hand, the coefficient of difference of price between Local Market Price and Rythu Bazaar price has positive influence on quantity arrivals of
Tomato into rest of Rythu Bazaars with highest in Kavali – Nellore (136.785) and lowest in Fatehkhan Pet – Nellore (6.826) among different Rythu Bazaars.

The Durbin Watson statistic indicates that there is positive auto correlation among the independent variables used in the Regression Analysis to estimate the influence of the price factors on quantity arrivals. However, in order to estimate the influence of price factors on quantity arrivals into Rythu Bazaars, the researcher has considered the Regression Co-efficient for the analysis purpose and its utility keeping away the problem of positive auto correlation.

The values of analysis of variance (F Value) indicate that F-test is statistically not significant at 1 per cent or 5 per cent level for most of the Rythu Bazaars in sample except Kavali – Nellore, Erragadda – Hyderabad, Fatima Nagar – Warangal, which have significant F Values.

**Brinjal:**

The Regression estimates for Brinjal arrivals into different Rythu Bazaars have been given in table – 3.21.

It is inferred from the table that the price factors included in the model have negligible influence on the arrivals in most of the Rythu Bazaars except Play Ground – Nellore, Fatehkhan Pet – Nellore, Kavali – Nellore, Quarry Centre – Rajahmundry, Fatima Nagar – Warangal and AA Nagar – Kurnool. The value of Coefficient of Determination ($R^2$) indicate that the variation in quantity arrivals of Brinjal has been influenced by 56.7 per cent price factors at Play Ground – Nellore followed by 53.9 per cent of price factors at Fatehkhan Pet – Nellore. In the case of other Rythu Bazaars, 34.4 per cent variation in the arrivals of Brinjal was explained by price factors in Kavali – Nellore, the variation in quantity arrivals of Tomato has been influenced by 30 per cent price factors at Quarry Centre – Rajahmundry, 27 per cent variation in the arrivals of Brinjal was explained by price factors in Fatima Nagar - Warangal and 24 per cent variations in arrivals of Brinjal was explained by price factors in the case of AA Nagar - Kurnool and 14.2 per cent variation in the arrivals of Brinjal was explained by price factors in Anantapuramu Rythu Bazaar whereas in rest of the Rythu Bazaars the influence of price factors on quantity arrivals of Brinjal is negligible and less than 10 per cent.
### Table – 3.20
Quantity Arrivals of Brinjal in relation to Difference of Price between Rythu Bazaar and Local Market during 2008 and 2013

<table>
<thead>
<tr>
<th>S.No.</th>
<th>Name of the Rythu</th>
<th>Constant Value</th>
<th>Coefficient of Difference of Price</th>
<th>Coefficient of RB Rate</th>
<th>Coefficient of Local Market</th>
<th>F Value</th>
<th>R² Value</th>
<th>Durbin Watson (DW) Statistic</th>
</tr>
</thead>
<tbody>
<tr>
<td>A1</td>
<td>C Camp RB – Kurnool</td>
<td>548.807</td>
<td>26.290 (0.400*)</td>
<td>---</td>
<td>-7.396 (-2.114**)</td>
<td>2.402</td>
<td>0.065</td>
<td>0.495</td>
</tr>
<tr>
<td>A2</td>
<td>Erragadda RB – Hyderabad</td>
<td>1526.283</td>
<td>-17.739 (-0.688*)</td>
<td>---</td>
<td>-10.181 (-1.475*)</td>
<td>1.322</td>
<td>0.037</td>
<td>0.750</td>
</tr>
<tr>
<td>B1</td>
<td>Arts College – Rajahmundry</td>
<td>432.601</td>
<td>-29.219 (-1.151*)</td>
<td>6.002 (2.308**)</td>
<td>---</td>
<td>2.799</td>
<td>0.075</td>
<td>0.668</td>
</tr>
<tr>
<td>B2</td>
<td>SBI Colony – Rajahmundry</td>
<td>575.578</td>
<td>-45.403 (-0.203*)</td>
<td>2.815 (0.934*)</td>
<td>---</td>
<td>0.944</td>
<td>0.027</td>
<td>0.448</td>
</tr>
<tr>
<td>B3</td>
<td>Quarry Centre – Rajahmundry</td>
<td>274.357</td>
<td>21.602 (0.460*)</td>
<td>16.339 (3.976**)</td>
<td>---</td>
<td>14.773</td>
<td>0.300</td>
<td>0.963</td>
</tr>
<tr>
<td>C1</td>
<td>Anantapuramu</td>
<td>443.927</td>
<td>-202.452 (-0.096*)</td>
<td>---</td>
<td>-5.983 (-3.350**)</td>
<td>5.688</td>
<td>0.142</td>
<td>0.426</td>
</tr>
<tr>
<td>C2</td>
<td>Kothapet – Kurnool</td>
<td>122.398</td>
<td>-1.775 (-4.963**)</td>
<td>0.539 (0.873*)</td>
<td>-0.126 (-0.424*)</td>
<td>0.293</td>
<td>0.013</td>
<td>0.796</td>
</tr>
<tr>
<td>C3</td>
<td>Play Ground – Nellore</td>
<td>396.828</td>
<td>-163.046 (-4.963**)</td>
<td>3.023 (1.546*)</td>
<td>---</td>
<td>45.164</td>
<td>0.567</td>
<td>0.742</td>
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<tr>
<td>C4</td>
<td>Kavali – Nellore</td>
<td>299.813</td>
<td>40.662 (3.124**)</td>
<td>-7.732</td>
<td>---</td>
<td>18.092</td>
<td>0.344</td>
<td>1.358</td>
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<tr>
<td>D1</td>
<td>AA Nagar – Kurnool</td>
<td>160.339</td>
<td>49.913 (3.864**)</td>
<td>78.693 (1.421*)</td>
<td>-75.189 (-1.357*)</td>
<td>7.169</td>
<td>0.240</td>
<td>0.492</td>
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<tr>
<td>D2</td>
<td>Excise Colony – Warangal</td>
<td>76.571</td>
<td>3.573 (1.189*)</td>
<td>0.327</td>
<td>---</td>
<td>3.423</td>
<td>0.090</td>
<td>0.700</td>
</tr>
<tr>
<td>D3</td>
<td>Fatima Nagar – Warangal</td>
<td>43.604</td>
<td>6.009 (2.678**)</td>
<td>0.262 (0.543*)</td>
<td>---</td>
<td>12.793</td>
<td>0.270</td>
<td>0.794</td>
</tr>
<tr>
<td>D4</td>
<td>Fatekhkhan Pet – Nellore</td>
<td>211.450</td>
<td>-85.926 (-0.796*)</td>
<td>1.186 (1.077*)</td>
<td>---</td>
<td>40.277</td>
<td>0.539</td>
<td>0.913</td>
</tr>
<tr>
<td>D5</td>
<td>Gudur Mncpl Park – Nellore</td>
<td>252.308</td>
<td>-14.614 (-0.172*)</td>
<td>-23.915 (-0.659*)</td>
<td>23.901 (0.661*)</td>
<td>0.427</td>
<td>0.019</td>
<td>0.702</td>
</tr>
</tbody>
</table>

* values in brackets indicate at 2 percent significant level
** values in brackets indicate at 5 percent significant level

Source: Directorate of Marketing, Rythu Bazaars, Andhra Pradesh
The above analysis confirms that the non price factors have high influence on market arrivals than price factors in the case of Brinjal in Rythu Bazaars.

The coefficient of Rythu Bazaar Price of Brinjal explains its influence on quantity arrivals into Rythu Bazaars. Rythu Bazaar price of Brinjal did not have significant influence on Quantity arrivals of Brinjal into both C Camp – Kurnool and Erragadda – Hyderabad Rythu Bazaars. The coefficient of Rythu Bazaar price is the highest influence at 78.693 in the case of AA Nagar – Kurnool followed by Gudur Mncpl Park – Nellore at -23.915; Quarry Centre – Rajahmundry at 16.339 whereas in rest of the Rythu Bazaars the influencing value is less than 10. However, Coefficient of RB Price has both negative and positive influences on quantity arrivals of Brinjal into the Rythu Bazaars. It has positive highest influence in AA Nagar – Kurnool at 78.693 whereas it has least positive influence in Fatima Nagar – Warangal at 0.262.

On the other hand, the Rythu Bazaar price has negative influence on the arrivals of Brinjal into both the Gudur Mncpl Park – Nellore and Kavali – Nellore at -23.915 and -7.732 respectively.

In the case of the coefficient of Local Market Price, it is found that it has positive influence on the arrivals of Brinjal into Gudur Mncpl Park – Nellore at 23.901. On the other hand, the coefficient of Local Market Price has negative influence in the Rythu Bazaars like AA Nagar – Kurnool (-75.189), Erragadda – Hyderabad (-10.181), C Camp Rythu Bazaar (-7.396) Anantapuramu Rythu Bazaar (-5.983) and Kothapet – Kurnool Rythu Bazaar (-0.126) whereas in rest of the Rythu Bazaars the Local Market Price is not having statistically significant influence.

The Coefficient of difference of price between Local Market Price and Rythu Bazaar Price of Brinjal explains its influence on quantity arrivals into Rythu Bazaars. The coefficient of different of price between Local Market and Rythu Bazaar Market is the highest at -202.452 in the case of Anantapuramu Rythu Bazaar followed by at -163.046 in Play Ground – Nellore, at -85.926 in Fatehkhan Pet – Nellore whereas the value is less than 50 in rest of all the Rythu Bazaars. However, Coefficient of difference of price between Local Market Price and Rythu Bazaar price has both positive and negative influences on quantity arrivals of Brinjal in to Rythu Bazaars.

The coefficient of difference of Price between Local Market Price and Rythu Bazaars price has negative influence on quantity arrivals of Brinjal in to Anantapuramu, Play
Ground – Nellore, Fatekhan Pet – Nellore, SBI Colony – Rajahmundry, Arts College – Rajahmundry, Erragadda – Hyderabad, Gudur Mncpl Park – Nellore, Kothapet – Kurnool in that order from highest (-202.452) to lowest (-1.775). On the other hand, the coefficient of difference of price between Local Market Price and Rythu Bazaar price has positive influence on quantity arrivals of Brinjal into AA Nagar – Kurnool, Kavali – Nellore, C Camp – Kurnool, Quarry Centre – Rajahmundry, Fatima Nagar – Warangal and Excise Colony – Warangal in that order from highest (49.913) to Lowest (3.573).

The Durbin Watson statistic indicates that there is positive auto correlation among the independent variables used in the Regression Analysis to estimate the influence of the price factors on quantity arrivals. However, in order to estimate the influence of price factors on quantity arrivals into Rythu Bazaar, the researcher has considered the Regression Co-efficient for the analysis purpose and its utility keeping away the problem of positive auto correlation.

The values of analysis of variance (F Value) indicate that F-test is statistically not significant at 1 per cent or 5 per cent level for most of the Rythu Bazaars in sample except Play Ground – Nellore, Fatekhan Pet – Nellore, Kavali – Nellore, Quarry Centre – Rajahmundry, Fatima Nagar – Warangal, which have significant F Values.

1. **Bhendi:**

The Regression estimates for Bhendi crop arrivals into different Rythu Bazaars have been given in table – 3.19.

It is inferred from the table that the price factors included in the model have negligible influence on the arrivals in most of the Rythu Bazaars except Fatekhanpet Rythu Bazaar – Nellore. However, the field observation does not support this Rythu Bazaar analysis, because the data provided by Rythu Bazar authorities may not be reliable. This is due to the non proper functioning of Fatekhanpet Rythu Bazaar – Nellore.
## Table – 3.21

<table>
<thead>
<tr>
<th>S.No.</th>
<th>Name of the Rythu</th>
<th>Constant Value</th>
<th>Coefficient of Difference of Price</th>
<th>Coefficient of RB Rate</th>
<th>Coefficient of Local Market</th>
<th>F Value</th>
<th>R² Value</th>
<th>Durbin Watson (DW) Statistic</th>
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<tr>
<td>A1</td>
<td>C Camp RB – Kurnool</td>
<td>643.569</td>
<td>-70.840</td>
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<td>-8.869</td>
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<td>(4.926**)</td>
<td>(-1.589*)</td>
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<td>A2</td>
<td>Erragadda RB – Hyderabad</td>
<td>1846.293</td>
<td>-48.108</td>
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<td>-15.293</td>
<td>3.315</td>
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<td>(-2.100**)</td>
<td>(-1.589*)</td>
<td>(-1.874*)</td>
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<td>B1</td>
<td>Arts College – Rajahmundry</td>
<td>360.092</td>
<td>3.994</td>
<td>1.205</td>
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<td>0.238</td>
<td>0.007</td>
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<td></td>
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<td>(4.116**)</td>
<td>(0.145*)</td>
<td>(0.490*)</td>
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<td>SBI Colony – Rajahmundry</td>
<td>268.893</td>
<td>17.948</td>
<td>2.505</td>
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<td>2.043</td>
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<td>(4.916**)</td>
<td>(1.427*)</td>
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<td>B3</td>
<td>Quarry Centre – Rajahmundry</td>
<td>-81.762</td>
<td>151.494</td>
<td>-2.151</td>
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<td>8.441</td>
<td>0.197</td>
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<td>(3.828**)</td>
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<td>C1</td>
<td>Anantapuramu</td>
<td>53.716</td>
<td>57.261</td>
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<td>8.490</td>
<td>0.197</td>
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<td></td>
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<td>(0.730*)</td>
<td>(0.783*)</td>
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<tr>
<td>C2</td>
<td>Kothapet – Kurnool</td>
<td>112.207</td>
<td>-4.767</td>
<td>0.890</td>
<td>-0.059</td>
<td>0.409</td>
<td>0.018</td>
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<td>(4.054**)</td>
<td>(-0.505*)</td>
<td>(-0.304*)</td>
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<td>C3</td>
<td>Play Ground – Nellore</td>
<td>291.055</td>
<td>-21.028</td>
<td>-8.222</td>
<td>---</td>
<td>14.370</td>
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<td>(4.504**)</td>
<td>(-2.512**)</td>
<td>(-4.113**)</td>
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<td></td>
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<tr>
<td>C4</td>
<td>Kavali – Nellore</td>
<td>124.095</td>
<td>20.584</td>
<td>-4.204</td>
<td>---</td>
<td>7.225</td>
<td>0.173</td>
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<td></td>
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<td>(2.817**)</td>
<td>(-3.764**)</td>
<td>(-3.610**)</td>
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</tr>
<tr>
<td>D1</td>
<td>AA Nagar – Kurnool</td>
<td>43.384</td>
<td>24.036</td>
<td>23.021</td>
<td>-18.850</td>
<td>4.267</td>
<td>0.158</td>
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<tr>
<td></td>
<td></td>
<td>(1.436*)</td>
<td>(0.629*)</td>
<td>(0.572*)</td>
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<tr>
<td></td>
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<td>(1.436*)</td>
<td>(0.629*)</td>
<td>(0.572*)</td>
<td></td>
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<tr>
<td>D2</td>
<td>Excise Colony – Warangal</td>
<td>74.866</td>
<td>3.543</td>
<td>0.463</td>
<td>---</td>
<td>3.882</td>
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<td>(1.400*)</td>
<td>(0.764*)</td>
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<tr>
<td>D3</td>
<td>Fatima Nagar – Warangal</td>
<td>49.426</td>
<td>0.340</td>
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<td>---</td>
<td>4.821</td>
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<td></td>
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<td>(0.294*)</td>
<td>(2.255*)</td>
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<td>D4</td>
<td>Fatekhkan Pet – Nellore</td>
<td>216.504</td>
<td>-88.848</td>
<td>0.026</td>
<td>---</td>
<td>44.335</td>
<td>0.562</td>
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<tr>
<td></td>
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<td>(0.019*)</td>
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</tr>
<tr>
<td>D5</td>
<td>Gudur Mncpl Park – Nellore</td>
<td>123.546</td>
<td>23.297</td>
<td>-0.525</td>
<td>---</td>
<td>0.713</td>
<td>0.020</td>
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<td>(4.508**)</td>
<td>(1.136*)</td>
<td>(-0.259*)</td>
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</tbody>
</table>

* values in brackets indicate at 2 percent significant level

** values in brackets indicate at 5 per cent significant level

Source: Directorate of Marketing, Rythu Bazaars, Andhra Pradesh
The value of Coefficient of Determination ($R^2$) indicate that the price factors influences about 56 per cent of variation in Bhendi quantity arrivals to the Fatehkhanpet – Nellore Rythu Bazaar are influenced by price factors. In the case of other Rythu Bazaars, 29.4 per cent variation in the arrivals of Bhendi was explained by price factors in Play Ground – Nellore Rythu Bazaar, 19.7 per cent variations in arrivals of Bhendi was explained by price factors in the case of Anantapuramu Rythu Bazaar, Quarry Centre Rythu Bazaar – Rajahmundry, 17.3 per cent variation was explained AA Naga – Kurnool, 12.3 per cent variation was explained in Fatima Nagar – Warangal Rythu Bazaar and 10.1 per cent of variation was explained in Excise Colony, Warangal. In the case of other Rythu Bazaars, the influence of price factors on quantity arrivals of Bhendi is negligible and less than 10 per cent.

The above analysis confirms that the non price factors have high influence on market arrivals than price factors in the case of Bhendi in Rythu Bazaars.

Rythu Bazaar price of Bhendi did not have significant influence on Bhendi arrivals into A Grade Rythu Bazaars (C Camp RB – Kunrool and Erragadda RB – Hyderabad) and Rythu Bazaar price influenced the arrivals of Bhendi into all other selected Rythu Bazaars. The coefficient of Rythu Bazaar Price of Bhendi explains its influence on quantity arrivals into Rythu Bazaars. The coefficient of Rythu Bazaar price is the highest at 23.021 in the case of AA Nagar RB – Kurnool followed by -8.222 in Play Ground RB – Nellore; -3.993 in Anantapuramu Rythu Bazaar; 2.505 in Quarry Centre Rythu Bazaar – Rajahmundry, 1.205 in Arts College – Rajahmundry. The remaining Rythu Bazaars its value is less than one. However, Coefficient of RB Price has both negative and positive influences on quantity arrivals of Bhendi into the Rythu Bazaars. It has positive influence in AA Nagar – Kurnool, SBI Colony – Rajahmundry RB, Arts College – Rajahmundry RB, Fatima Nagar – Warangal RB, Kothapet – Kurnool RB, Excise Colony – Warangal RB and Fatehkhanpet – Nellore in that order from highest (23.021) to lowest (0.026). On the other hand, the Rythu Bazaar price has negative influence on the arrivals of Bhendi into the Play Ground – Nellore, Kavali – Nellore, Anantapuramu, Quarry Centre – Rajahmundry and Gudur Mncl Park – Nellore in that order from highest (-8.233) to lowest (-0.525) in different Rythu Bazaars.
In the case of the coefficient of Local Market Price, it is found that it has negative influence on the arrivals of Bhendi into C Camp Rythu Bazaar – Kurnool (-8.869), Yerragadda – Hyderabad (-15.29), AA Nagar – Kurnool (-18.850) and Kothapet – Kurnool (-0.059). In the case of other Rythu Bazaars, the Local Market Price is not having statistically significant influence.

The Coefficient of difference of price between Local Market Price and Rythu Bazaar Price of Bhendi explains its influence on quantity arrivals into Rythu Bazaars. The coefficient of different of price between Local Market and Rythu Bazaar Market is the highest at 151.494 in the case of Quarry Centre – Rajahmundry followed by at -88.848 in Fatehkhan Pet – Nellore; at -70.840 in C Camp Rythu Bazaar – Kurnool; at 57.261 in Anantapuramu Rythu Bazaar; at -48.108 in Erragadda RB – Hyderabad and in remaining Rythu Bazaars the value is less than 25 whereas it was found least in Fatima nagar – Warangal RB at 0.340 only.

However, Coefficient of difference of price between Local Market Price and Rythu Bazaar price has both positive and negative influences on quantity arrivals of Bhendi in to Rythu Bazaars.

The coefficient of difference of Price between Local Market Price and Rythu Bazaars price has positive influence on quantity arrivals of Bhendi in Quarry Centre – Rajahmundry followed by Anantapuramu RB, AA Nagar – Kunrool, Gudur Municipal Park – Nellore, Kavali – Nellore, SBI Colony – Rajahmundry, Arts College – Rajahmundry, Excise Colony – Warangal in that order from highest (151.494) to Lowest (3.994) where as it was found least positive influence on quantity arrivals of Bhendi into Fatima Nagar – Warangal RB with only 0.340.

On the other hand, the coefficient of difference of price between Local Market Price and Rythu Bazaar price has negative influence on quantity arrivals of Bhendi into Fatehkhan Pet – Nellore, C Camp – Kurnool, Erragadda- Hyderabad, Play Ground – Nellore, Kothapet – Kurnool in that order from highest (-88.848) to lowest (-4.767) in different Rythu Bazaars.

The Durbin Watson statistic indicates that there is positive auto correlation among the independent variables used in the Regression Analysis to estimate the influence of the price factors on quantity arrivals. However, in order to estimate the influence of price factors on quantity arrivals into Rythu Bazaars, the researcher has considered
the Regression Co-efficient for the analysis purpose and its utility keeping away the problem of positive auto correlation.

The values of analysis of variance (F Value) indicate that F-test is statistically not significant at 1 per cent or 5 per cent level for most of the Rythu Bazaars in sample except Fatehkhan Rythu Bazaar – Nellore, Play Ground Rythu Bazaar – Nellore, Anantapuramu Rythu Bazaar and Quarry Centre Rythu Bazaar – Rajahmundry, which have significant F Values.

**Green Chillies:**

The Regression estimates for Green Chillies crop arrivals into different Rythu Bazaars have been given in table – 3.22.

It is inferred from the table that the price factors included in the model have negligible influence on the arrivals in most of the Rythu Bazaars except Fatehkhan Pet – Nellore.

The value of Coefficient of Determination ($R^2$) indicate that the variation in quantity arrivals of Green Chillies has been influenced by 58.3 per cent price factors at Fatehkhan Pet – Nellore followed by 32.4 per cent of price factors at Fatima Nagar – Warangal Rythu Bazaars, 23.6 per cent variation in the arrivals of Green Chillies was explained by price factors in Play Ground – Nellore, the variation in quantity arrivals of Green Chillies has been influenced by 22.1 per cent of price factors at Excise Colony - Warangal Rythu Bazaar, 18.4 per cent variation in the arrivals of Green Chillies was explained by price factors in Quarry Centre – Rajahmundry, 15.4 per cent variation in the arrivals of Green Chillies was explained by price factors in Kavali – Nellore, 13 per cent variation in the arrivals of Green Chillies was explained by price factors in Arts College – Rajahmundry, 12.3 per cent variations in arrivals of Green Chillies was explained by price factors in the case of AA Nagar – Kurnool, 11.6 per cent variation in the arrivals of Green Chillies was explained by price factors in Erragadda – Hyderabad, 11.1 per cent variations in arrivals of Green Chillies was explained by price factors in the case of SBI Colony - Rajahmundry whereas in rest of the Rythu Bazaars the influence of price factors on quantity arrivals of Green Chillies is negligible and less than 10 per cent. The above analysis confirms that the non price factors have high influence on market arrivals than price factors in the case of Green Chillies in Rythu Bazaars.
### Table – 3.22
Quantity Arrivals of Green Chillies in relation to Difference of Price between Rythu Bazaar and Local Market

<table>
<thead>
<tr>
<th>S.No.</th>
<th>Name of the Rythu</th>
<th>Quantity</th>
<th>Constant Value</th>
<th>Coefficient of Difference of Price</th>
<th>Coefficient of RB Rate</th>
<th>Coefficient of Local Market</th>
<th>F Value</th>
<th>R² Value</th>
<th>Durbin Watson (DW) Statistic</th>
</tr>
</thead>
<tbody>
<tr>
<td>A1</td>
<td>C Camp RB – Kurnool</td>
<td>102.71</td>
<td>441.786 (3.452**)</td>
<td>86.363 (1.640*)</td>
<td>---</td>
<td>-4.044 (-1.612*)</td>
<td>3.121</td>
<td>0.083</td>
<td>0.650</td>
</tr>
<tr>
<td>A2</td>
<td>Erragadda RB – Hyderabad</td>
<td>1517.22</td>
<td>141.113 (2.592**)</td>
<td>35.598 (1.904*)</td>
<td>-12.673 (-2.677**)</td>
<td>---</td>
<td>4.527</td>
<td>0.116</td>
<td>0.840</td>
</tr>
<tr>
<td>B1</td>
<td>Arts College – Rajahmundry</td>
<td>108.817</td>
<td>149.804 (-0.161*)</td>
<td>268.368 (1.395*)</td>
<td>-1.341 (-0.950*)</td>
<td>---</td>
<td>0.792</td>
<td>0.025</td>
<td>0.531</td>
</tr>
<tr>
<td>B2</td>
<td>SBI Colony – Rajahmundry</td>
<td>362.626</td>
<td>140.113 (2.592**)</td>
<td>35.598 (1.904*)</td>
<td>-12.673 (-2.677**)</td>
<td>---</td>
<td>0.792</td>
<td>0.025</td>
<td>0.531</td>
</tr>
<tr>
<td>B3</td>
<td>Quarry Centre – Rajahmundry</td>
<td>108.817</td>
<td>149.804 (-0.161*)</td>
<td>268.368 (1.395*)</td>
<td>-1.341 (-0.950*)</td>
<td>---</td>
<td>0.792</td>
<td>0.025</td>
<td>0.531</td>
</tr>
<tr>
<td>C1</td>
<td>Anantapuramu</td>
<td>108.817</td>
<td>149.804 (-0.161*)</td>
<td>268.368 (1.395*)</td>
<td>-1.341 (-0.950*)</td>
<td>---</td>
<td>0.792</td>
<td>0.025</td>
<td>0.531</td>
</tr>
<tr>
<td>C2</td>
<td>Kothapet – Kurnool</td>
<td>232.304</td>
<td>140.113 (2.592**)</td>
<td>35.598 (1.904*)</td>
<td>-12.673 (-2.677**)</td>
<td>---</td>
<td>0.792</td>
<td>0.025</td>
<td>0.531</td>
</tr>
<tr>
<td>C3</td>
<td>Play Ground – Nellore</td>
<td>232.304</td>
<td>140.113 (2.592**)</td>
<td>35.598 (1.904*)</td>
<td>-12.673 (-2.677**)</td>
<td>---</td>
<td>0.792</td>
<td>0.025</td>
<td>0.531</td>
</tr>
<tr>
<td>C4</td>
<td>Kavali – Nellore</td>
<td>232.304</td>
<td>140.113 (2.592**)</td>
<td>35.598 (1.904*)</td>
<td>-12.673 (-2.677**)</td>
<td>---</td>
<td>0.792</td>
<td>0.025</td>
<td>0.531</td>
</tr>
<tr>
<td>D1</td>
<td>AA Nagar – Kurnool</td>
<td>112.422</td>
<td>112.422 (4.517**)</td>
<td>39.099 (0.846*)</td>
<td>33.240</td>
<td>-31.801</td>
<td>3.166</td>
<td>0.123</td>
<td>0.734</td>
</tr>
<tr>
<td>D2</td>
<td>Excise Colony – Warangal</td>
<td>63.668</td>
<td>63.668 (3.602**)</td>
<td>5.859 (-3.537**)</td>
<td>-0.498</td>
<td>---</td>
<td>9.804</td>
<td>0.221</td>
<td>1.025</td>
</tr>
<tr>
<td>D3</td>
<td>Fatima Nagar – Warangal</td>
<td>41.559</td>
<td>41.559 (-1.132*)</td>
<td>8.009 (-1.884*)</td>
<td>2.133</td>
<td>---</td>
<td>0.646</td>
<td>0.858</td>
<td>0.918</td>
</tr>
<tr>
<td>D4</td>
<td>Fatekhkhan Pet – Nellore</td>
<td>179.539</td>
<td>179.539 (-1.884*)</td>
<td>8.009 (-1.884*)</td>
<td>2.133</td>
<td>---</td>
<td>0.646</td>
<td>0.858</td>
<td>0.918</td>
</tr>
</tbody>
</table>

* values in brackets indicate at 2 percent significant level

** values in brackets indicate at 5 per cent significant level

Source: Directorate of Marketing, Rythu Bazars, Andhra Pradesh
The Durbin Watson statistic indicates that there is positive auto correlation among the independent variables used in the Regression Analysis to estimate the influence of the price factors on quantity arrivals. However, in order to estimate the influence of price factors on quantity arrivals into Rythu Bazaars, the researcher has considered the Regression Co-efficient for the analysis purpose and its utility keeping away the problem of positive auto correlation.

The values of analysis of variance (F Value) indicate that F-test is statistically not significant at 1 per cent or 5 per cent level for most of the Rythu Bazaars in sample except Fatehkhan Pet – Nellore, Fatima Nagar – Warangal, Play Ground – Nellore, which have significant F Values.

In the case of the coefficient of Local Market Price, it is found that it has positive influence on the arrivals of Green Chillies into Anantapuramu Rythu Bazaars (43.444) only whereas it is found that it has negative influence on the arrivals of Green Chillies into AA Naga – Kurnool (-31.801), C Camp – Kurnool (-4.044), Kothapet – Kurnool (-0.091). In the case of other Rythu Bazaars, the Local Market Price is not having statistically significant influence.

The coefficient of Rythu Bazaar Price of Green Chillies explains its influence on quantity arrivals into Rythu Bazaars. Rythu Bazaar price of Green Chillies did not have significant influence on Quantity arrivals of Green Chillies into C Camp – Kurnool Rythu Bazaar. The coefficient of Rythu Bazaar price is the highest influence at -46.342 in the case of Anantapuramu Rythu Bazaar followed by AA Nagar – Kurnool at 33.240, Erragadda Rythu Bazaar at -12.673 whereas in rest of the Rythu Bazaars the influencing value is less than 5. However, Coefficient of RB Price has both negative and positive influences on quantity arrivals of Green Chillies into the Rythu Bazaars. It has positive influence in AA Nagar – Kurnool, Gudur Mcpl Park – Nellore, Fatehkhan Pet – Nellore, Arts College – Rajahmundry, Quarry Centre – Rajahmundry and Kothapet – Kurnool in that order from highest (33.240)) to lowest (0.792). On the other hand, the Rythu Bazaar price has highest negative influence on the arrivals of Green Chillies into the Anantapuramu, Erragadda – Hyderabad, Kavali – Nellore, Play Ground – Nellore, SBI Colony – Rajahmundry, Fatima Nagar – Warangal, Excise Colony – Warangal in that order from highest (-46.342) to Lowest (-0.498).

The Coefficient of difference of price between Local Market Price and Rythu Bazaar Price of Green Chillies explains its influence on quantity arrivals into Rythu
Bazaars. The coefficient of different of price between Local Market and Rythu Bazaar Market is the highest at 268.368 in the case of Anantapuramu RB followed by at -90.980 in Fatekhkan Pet – Nellore, at 86.636 in C Camp – Kurnool, at -67.143 in Gudur Mncpl Park – Nellore, at 53.996 in Quarry Centre – Rajahmundry whereas in rest of the Rythu Bazaars the value is less than 50. However, Coefficient of difference of price between Local Market Price and Rythu Bazaar price has both positive and negative influences on quantity arrivals of Tomato in to Rythu Bazaars.

The coefficient of difference of Price between Local Market Price and Rythu Bazaar price has negative influence on quantity arrivals of Green Chilli in Fatekhkan pet – Nellore, Gudur Mncpl Park – Nellore, Play Ground – Nellore, SBI Colony – Rajahmundry, Erragadda RB – Hyderabad and Kothapet – Kurnool in that order from highest (-90.980) to Lowest (-3.232). On the other hand, the coefficient of difference of price between Local Market Price and Rythu Bazaar price has positive influence on quantity arrivals of Green Chilli into Anantapuramu, C Camp – Kurnool, Quarry Centre – Rajahmundry, Arts College – Rajahmundry, Kavali – Nellore, AA Nagar – Kurnool, Excise Colony – Warangal and Fatima Nagar – Warangal in that order from highest (268.368) to Lowest (8.009).

**Conclusion:**

It is concluded from the chapter that the average monthly arrivals of all varieties of vegetables were noticed with higher variations among different grades of Rythu Bazaars and in different seasons / time periods. It is also significant to note that the variations in the price differences between Wholesale Markets – Rythu Bazaar Markets and Retail Market – Rythu Bazaar Market was very high in different months / seasons in a year and among different Grade Rythu Bazaars.
Fluctuations in the prices and arrivals of Rythu Bazaars have been presented in the third chapter. From the last chapter it is learnt that about 15 per cent of the factors those are affecting the Quantity Arrival of Rythu Bazars in the Different Grades of Rythu Bazaars were the prices of Rythu Bazaars, Prices of Local Market and Difference of Price between Rythu Bazaars and Local Markets through Coefficient of Variation, Coefficient of Variation around Trend Line and also fitted the Linear Regression Line using the F-test statistics. Hence, an attempt has been made in the present chapter that to find out the rest of the factors that affects the Marketing Efficiency of Rythu Bazaars.

4.1 Socio – Economic Profile of Sampled Farmers:

An attempt has been made to depict the actual socio-economic conditions of both sampled farmers and consumers in the respective Rythu Bazaars. The socio-economic conditions of the farmer respondents enable to capture the whole gamut of Rythu Bazaar scenario which ultimately assists in designing an appropriate prescription to solve problems of the farmers of the Rythu Bazaars. In other words, socio-economic conditions that also affects the farmers at household level which also leads to standard of living of the farmer on the one hand and marketing efficiency of Rythu Bazaars on the other hand in the study area. Hence, in this chapter, an attempt has been made to depict the actual socio-economic conditions of 160 sampled vegetable sellers in their respective Rythu Bazaars.

4.1.1 Distribution of Farmer Respondents by Gender:

Gender has the important role in Indian rural agricultural sector. According to Gurung (2006)\textsuperscript{41}, Women farmers and entrepreneurs face a number of disadvantages, including lower mobility, less access to training, less access to market information, and less access to productive resources as compared to men. Women farmers can find it hard to maintain a profitable role in marketing of products. And on the other hand, studies revealed that Women producers and entrepreneurs could also increase their output and incomes by an estimated 10 – 20 per cent by providing

with same inputs and education as men\textsuperscript{42}. It is also important to note that women role is crucial in Marketing of Farm Produce in the markets like Rythu Bazaars because of these reasons – on the one hand marginal propensity to save is higher and marginal propensity to consume / Expenditure is lesser than men on the other though there is some problems while marketing the produce to the Rythu Bazaars such as problems during staying at night times, problems during transporting the agricultural product. Hence, the present table depicts the distribution of farmer respondents by Gender is considered significant.

Table – 4.1.1
Distribution of Farmer Respondents by Gender

<table>
<thead>
<tr>
<th>Gender</th>
<th>A' Gr RB</th>
<th>B' Gr RB</th>
<th>C' Gr RB</th>
<th>D' Gr RB</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Male</td>
<td>23</td>
<td>31</td>
<td>26</td>
<td>33</td>
<td>113</td>
</tr>
<tr>
<td></td>
<td>(57.50%)</td>
<td>(77.50%)</td>
<td>(65.00%)</td>
<td>(82.50%)</td>
<td>(70.63%)</td>
</tr>
<tr>
<td>Female</td>
<td>17</td>
<td>9</td>
<td>14</td>
<td>7</td>
<td>47</td>
</tr>
<tr>
<td></td>
<td>(42.50%)</td>
<td>(22.50%)</td>
<td>(35.00%)</td>
<td>(17.50%)</td>
<td>(29.38%)</td>
</tr>
<tr>
<td>Total</td>
<td>40</td>
<td>40</td>
<td>40</td>
<td>40</td>
<td>160</td>
</tr>
<tr>
<td>Sex Ratio</td>
<td>0.74</td>
<td>0.29</td>
<td>0.54</td>
<td>0.21</td>
<td>0.42</td>
</tr>
</tbody>
</table>

Source: Primary Data

The ratio of women farmer respondents to the male was higher in ‘A’ Grade Rythu Bazaar with 0.74 per cent followed by C Grade Rythu Bazaar with 0.54 per cent, B Grade Rythu Bazaar with 0.29 per cent whereas least ratio of female was noticed in D Grade Rythu Bazaars. The ratio of female respondents was 0.42 per cent among all the Rythu Bazaars in the state as a whole.

4.1.2. Distribution of Respondents by their Educational Qualification:

The importance of Education for over all development of an individual is over emphasized in the literature. In recent years, educational development is recognised as one of the important component of human resource development. In view of this, many a country has taken number of measures to increase literacy levels, especially among the rural masses. Literacy has its own importance among direct marketing of vegetables community.

“The future of the direct marketing of farm products depends upon the extent of education of the farmers, in the face of severe competition from wholesalers, retails”. An educated farmer / seller is expected to have better understanding of the market conditions and can change or adjust his production activity / cropping pattern to suit the changing needs and tastes and preferences of the consumers.

The levels of literacy of the head of the households, who are having the ID cards in their respective Rythu Bazaars are analysed in Table 4.2.

<table>
<thead>
<tr>
<th>Caste Category</th>
<th>‘A’ Gr RB</th>
<th>‘B’ Gr RB</th>
<th>‘C’ Gr RB</th>
<th>‘D’ Gr RB</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Illiterate</td>
<td>6</td>
<td>8</td>
<td>12</td>
<td>15</td>
<td>41</td>
</tr>
<tr>
<td></td>
<td>(15.00%)</td>
<td>(20.00%)</td>
<td>(30.00%)</td>
<td>(37.50%)</td>
<td>(25.63%)</td>
</tr>
<tr>
<td>Primary Education</td>
<td>19</td>
<td>18</td>
<td>20</td>
<td>18</td>
<td>75</td>
</tr>
<tr>
<td></td>
<td>(47.50%)</td>
<td>(45.00%)</td>
<td>(50.00%)</td>
<td>(45.00%)</td>
<td>(46.88%)</td>
</tr>
<tr>
<td>Upper Primary</td>
<td>10</td>
<td>11</td>
<td>8</td>
<td>7</td>
<td>36</td>
</tr>
<tr>
<td></td>
<td>(25.00%)</td>
<td>(27.50%)</td>
<td>(20.00%)</td>
<td>(17.50%)</td>
<td>(22.50%)</td>
</tr>
<tr>
<td>Graduates</td>
<td>5</td>
<td>3</td>
<td>0</td>
<td>0</td>
<td>8</td>
</tr>
<tr>
<td></td>
<td>(12.50%)</td>
<td>(7.50%)</td>
<td>(0.00%)</td>
<td>(0.00%)</td>
<td>(5.00%)</td>
</tr>
<tr>
<td>Total</td>
<td>40</td>
<td>40</td>
<td>40</td>
<td>40</td>
<td>160</td>
</tr>
<tr>
<td>Illiterate Ratio to</td>
<td>0.18</td>
<td>0.25</td>
<td>0.43</td>
<td>0.60</td>
<td>0.26</td>
</tr>
<tr>
<td>the Literates</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Source:

The illiterate ratio was noticed highest in D Grade Rythu Bazaar with 0.60 per cent followed by C Grade Rythu Bazaar with 0.43 per cent, B Grade Rythu Bazaar with 0.25 per cent whereas it was noticed least in A Grade Rythu Bazar.
Highest percentage of literates with higher qualification as graduation was noticed in the A Grade Rythu Bazaar with 12.5 per cent followed by B Grade Rythu Bazaar with only 7.5 per cent of the farmer respondents whereas there were no graduates in rest of two grades of Rythu Bazaars.

Farmer respondents having primary education as their qualification was noticed highest in C Grade Rythu Bazaar with 50 per cent followed by A Grade Rythu Bazaar with 47.5 per cent whereas in rest of two grades of Rythu Bazaars it was noticed 45 per cent of farmer respondents.

Farmer respondents having upper primary education as their qualification was noticed highest in B Grade Rythu Bazaar with 27.5 per cent followed by A Grade Rythu Bazaar with 25 per cent, C Grade Rythu Bazaar with 20 per cent whereas least percentage of respondent farmers noticed in this category was in D Grade Rythu Bazaar with 17.5 per cent.

It is concluded from the table that one of the reasons for higher grade to the Rythu Bazaar is having the well aware farmer sellers especially in A Grade and B Grade Rythu Bazaars. In other words, it is observed from the field study that higher the literacy farmer sellers were able to market their product efficiently than others and they could able to understand the marketing conditions of both supply and demand side fluctuations so that they were succeeding in controlling the marketing fluctuations in these areas by accessing speedy information of marketing conditions.

4.1.3 Distribution of Farmers by their Age:

Age decides two factors as it requires for effective marketing of vegetable produce – one is able to understand and can able to change the marketing situations by applying their past experience and second another indicates the joint family as marketing of vegetables require having at-least more than four members in the family. According to the study of Knowler and Bradshaw (2006)\(^4\) younger farmer sellers were expected to be more adventurous and less risk averse than older farmers.

Table – 4.1.3
Distribution of Farmers by their Age

<table>
<thead>
<tr>
<th>Caste Category</th>
<th>‘A’ Gr RB</th>
<th>‘B’ Gr RB</th>
<th>‘C’ Gr RB</th>
<th>‘D’ Gr RB</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Below 25 Years</td>
<td>9</td>
<td>11</td>
<td>4</td>
<td>3</td>
<td>27</td>
</tr>
<tr>
<td></td>
<td>(22.50%)</td>
<td>(27.50%)</td>
<td>(10.00%)</td>
<td>(7.50%)</td>
<td>(16.88%)</td>
</tr>
<tr>
<td>25 – 40 Years</td>
<td>18</td>
<td>13</td>
<td>9</td>
<td>11</td>
<td>51</td>
</tr>
<tr>
<td></td>
<td>(45.00%)</td>
<td>(32.50%)</td>
<td>(22.50%)</td>
<td>(27.50%)</td>
<td>(31.88%)</td>
</tr>
<tr>
<td>40 – 60 Years</td>
<td>8</td>
<td>9</td>
<td>20</td>
<td>17</td>
<td>54</td>
</tr>
<tr>
<td></td>
<td>(20.00%)</td>
<td>(22.50%)</td>
<td>(50.00%)</td>
<td>(42.50%)</td>
<td>(33.75%)</td>
</tr>
<tr>
<td>60 and Above</td>
<td>5</td>
<td>7</td>
<td>7</td>
<td>9</td>
<td>28</td>
</tr>
<tr>
<td></td>
<td>(12.50%)</td>
<td>(17.50%)</td>
<td>(17.50%)</td>
<td>(22.50%)</td>
<td>(17.50%)</td>
</tr>
<tr>
<td>Total</td>
<td>40</td>
<td>40</td>
<td>40</td>
<td>40</td>
<td>160</td>
</tr>
</tbody>
</table>

It is observed from the field study that the age group of below 25 years farmer respondents were identified highest in B Grade Rythu Bazaar with 27.5 per cent followed by A Grade Rythu Bazaar with 22.5 per cent, C Grade Rythu Bazaar with 10 per cent whereas it was found least in D Grade Rythu Bazaars with only 7.5 per cent.

The farmer respondents’ age group between 25 – 40 years were noticed highest in A Grade Rythu Bazaar with 45 per cent followed by B Grade Rythu Bazaar with 32.5 per cent, D Grade Rythu Bazaar with 27.5 per cent where it was found least in C Grade Rythu Bazaar with 22.5 per cent.

The farmer respondents age group between 40 – 60 years were noticed highest in C Grade Rythu Bazaar with 50 per cent followed by D Grade Rythu Bazaar with 42.5 per cent, B Grade Rythu Bazaar with 22.5 per cent where as it was found least in A Grade Rythu Bazaar with only 20 per cent.

The Old age group of 60 years and above were noticed highest in D Grade Rythu Bazaar with 22.5 per cent followed by both B and C Grade Rythu Bazaars with 17.5 per cent whereas it was found least in A Grade Rythu Bazaars with 12.5 per cent.

About 33.75 per cent of the farmer respondents were in the age group of 40 to 60 years followed by 31.88 per cent were in the age group of 25 – 40 years, 17.5 per cent were in the age group of 60 and above whereas least percentage of farmer respondents (16.88 per cent) were found in the age group of below 25 years.

It is concluded from the field study that the age above 60 years noticed in C Grade and D Grade Rythu Bazaars were getting vegetables from the neighbouring...
villages / farmers in addition to growing the one variety of vegetable in their respective villages whereas it was noticed in A and B Grade Rythu Bazars that most of these persons were assisting their respective families as they were living in joint families. It is also noted from the field study that most of the aged group of above 60 years were not able to understand the marketing situation prevailing in the Rythu Bazars, Wholesale Markets and Retail Markets. On the other hand, the group between 30 to 45 years farmer sellers could able to change the marketing situations to their favour because their adventurous.

4.1.4 Classification based on Social Category:

The caste system is considered the most prominent one among the social institutions that are held responsible for India's backwardness. It is observed that hierarchically upper caste farmers are able to continue with their income because of their caste support even in the critical conditions also, whereas, the low caste farming community is unable to continue in such situations because of the lack of such support. Since caste is an important socio-cultural characteristic, therefore information regarding caste of the farmer respondents and success achieved by them has been analyzed to see the influence of caste level on success achieved by the respondents.

<table>
<thead>
<tr>
<th>Caste Category</th>
<th>‘A’ Gr RB</th>
<th>‘B’ Gr RB</th>
<th>‘C’ Gr RB</th>
<th>‘D’ Gr RB</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>ST</td>
<td>1 (2.50%)</td>
<td>2 (5.00%)</td>
<td>3 (7.50%)</td>
<td>1 (2.50%)</td>
<td>7 (4.38%)</td>
</tr>
<tr>
<td>SC</td>
<td>11 (27.50%)</td>
<td>13 (32.50%)</td>
<td>9 (22.50%)</td>
<td>6 (15.00%)</td>
<td>39 (24.38%)</td>
</tr>
<tr>
<td>OBC</td>
<td>24 (60.00%)</td>
<td>18 (45.00%)</td>
<td>19 (47.50%)</td>
<td>26 (65.00%)</td>
<td>87 (54.38%)</td>
</tr>
<tr>
<td>OC</td>
<td>4 (10.00%)</td>
<td>7 (17.50%)</td>
<td>9 (22.50%)</td>
<td>7 (17.50%)</td>
<td>27 (16.88%)</td>
</tr>
<tr>
<td>Total</td>
<td>40</td>
<td>40</td>
<td>40</td>
<td>40</td>
<td>160</td>
</tr>
</tbody>
</table>

Source: Primary Data

It is observed from the table that about 54.38 per cent of the farmer sellers were utilizing the services of Rythu Bazaars followed by SC Category with 24.38 per cent, OC Category with 16.88 per cent whereas least percentage of persons in ST (4.38%) Category, where it was not even more or less equal to their population, were utilizing the Rythu Bazaar services.
ST Category were highest in C Grade Rythu Bazaar (7.5%), when compared to other Rythu Bazaars, followed by B Grade Rythu Bazaars with only 5 per cent whereas least percentage of persons in the category were utilizing the Rythu Bazaar market services in both A and D Grades of Rythu Bazaars.

SC Category were highest in B Grade Rythu Bazaar (32.5 %) followed by A Grade Rythu Bazaar with 27.5%, C Grade Rythu Bazaar with 22.5 per cent whereas it was noticed least in D Grade Rythu Bazaar with only 15 per cent.

OBC was highest in D Grade Rythu Bazaar with 65 per cent followed by A Grade Rythu Bazaar with 60 per cent, C Grade Rythu Bazaar with 47.5 per cent where as it was noticed lowest in C Grade Rythu Bazaar.

Hierarchically upper caste i.e. OC Category was noticed highest in C and D Grade Rythu Bazaar with 22.5 per cent followed by B and D Grade Rythu Bazaars with 17.5 per cent each whereas it was noticed least in A Grade Rythu Bazaar with only 10 per cent.

Competition will reduce the caste differences there by low caste people can compete with upper caste people. If there is no barrier to entry into any Rythu Bazaar then low caste people can freely enter and compete with other caste group and thereby they can also improve their standard of living. It can be observed from the table that majority of upper caste group were enjoying the Rythu Bazaar services especially in D Grade Rythu Bazaar. Whereas, in D Grade Rythu Bazaars, most of the farmer sellers were selected / recommended through local representatives and thereby they would permanently settle down in the respective Rythu Bazaars.

4.1.5 Distribution of Farmers by its type of Household:

The joint family, the caste system and village system are often regarded as the pillars of the Hindu society. It is an age-old system having a long history of its own. Joint family is having major advantages especially in rural farming community. In this system, each family member will do his own work along with participating in others activity especially in farming activity. Therefore, it is very important to have the joint family especially farmers who are also selling their produce directly to the consumers. Totally at-least four and above members require to involve in marketing the vegetable produce. Joint family system is, now-a-days, impracticable even in Indian villages due to growing the individuality and choosing independence among the household members. Hence, the present table distribution of farmer sellers by its type of household is considered significant.
Table – 4.1.5
Distribution of Farmers by its type of Household

<table>
<thead>
<tr>
<th>Caste Category</th>
<th>A’ Gr RB</th>
<th>B’ Gr RB</th>
<th>C’ Gr RB</th>
<th>D’ Gr RB</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Joint</td>
<td>31</td>
<td>28</td>
<td>23</td>
<td>11</td>
<td>93</td>
</tr>
<tr>
<td></td>
<td>(77.50%)</td>
<td>(70.00%)</td>
<td>(57.50%)</td>
<td>(27.50%)</td>
<td>(58.13%)</td>
</tr>
<tr>
<td>Nuclear</td>
<td>9</td>
<td>12</td>
<td>17</td>
<td>29</td>
<td>67</td>
</tr>
<tr>
<td></td>
<td>(22.50%)</td>
<td>(30.00%)</td>
<td>(42.50%)</td>
<td>(72.50%)</td>
<td>(41.88%)</td>
</tr>
<tr>
<td>Total</td>
<td>40</td>
<td>40</td>
<td>40</td>
<td>40</td>
<td>160</td>
</tr>
</tbody>
</table>

Source: Primary Data

It is interesting to note that least percentage of joint families were noticed very little in the D Grade Rythu Bazaars, where none of their family members were accompanying the farmer sellers in their respective households, followed by C Grade Rythu Bazaar with 57.5 per cent of joint families, B Grade Rythu Bazaars with 70 per cent whereas A Grade Rythu Bazaar was having large number of joint families either supported by the elders or staying with above 14 years of age group children in the family. On the other hand, it is also observed from the table that a large number of nuclear families were found highest in the D Grade Rythu Bazaar due to lack of competition among the farmer sellers so that they could able to get space for selling their product in their respective Rythu Bazaars. For Example, in Kurnool, three Rythu Bazaars were existed in the city. Though there is far away from their respective villages to the A Grade Rythu Bazaars, most of the young and joint families could able to rush out to the A Grade Rythu Bazar to sell their product in time but they were not ready to come to nearest Rythu Bazaar, where the demand for the produce is less.

It is also proved from the field study that still it is the family activity rather than a business activity. In other words, due to restrictions prevailing more in the A and B Grade Rythu Bazaars, vegetable growers were selling their produce on their own rather than selling it out to middlemen, who in turn come to Rythu Bazaar and sell their product. A large number of middlemen were identified in C and D Grade Rythu Bazaars, where the original ID holder sells his product to the middlemen along with providing his / her ID card.

4.1.6 Distribution of Farmer Respondents by their Household Size:

It is compulsory to have at-least 4 to 5 members in the family especially for engaging in farming activity and marketing of their vegetable produce at their respective Rythu Bazaars. If there is less number in the household then it is very
difficult to continue its activity especially the marketing of vegetable produce at Rythu Bazaars because each and every farmer seller should engage in their respective Rythu Bazaars for at-least 6 to 8 hours in B, C and D Grade Rythu Bazaars and for at-least 2 to 3 hours especially in A Grade Rythu Bazaars for selling their entire produce of at-least half to one quintal of vegetable produce. Hence, distribution of farmer respondents by their size of household has been depicted in the Table – 4.1.6

<table>
<thead>
<tr>
<th>No. of Members in the family</th>
<th>‘A’ Gr RB</th>
<th>‘B’ Gr RB</th>
<th>‘C’ Gr RB</th>
<th>‘D’ Gr RB</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt; 3</td>
<td>2 (5.00%)</td>
<td>3 (7.50%)</td>
<td>11 (27.50%)</td>
<td>8 (20.00%)</td>
<td>24 (15.00%)</td>
</tr>
<tr>
<td>4 to 5</td>
<td>21 (52.50%)</td>
<td>19 (47.50%)</td>
<td>16 (40.00%)</td>
<td>23 (57.50%)</td>
<td>79 (49.38%)</td>
</tr>
<tr>
<td>6 to 7</td>
<td>14 (35.00%)</td>
<td>11 (27.50%)</td>
<td>9 (22.50%)</td>
<td>7 (17.50%)</td>
<td>41 (25.63%)</td>
</tr>
<tr>
<td>8 &gt;</td>
<td>3 (7.50%)</td>
<td>7 (17.50%)</td>
<td>4 (10.00%)</td>
<td>2 (5.00%)</td>
<td>16 (10.00%)</td>
</tr>
<tr>
<td>Total</td>
<td>40</td>
<td>40</td>
<td>40</td>
<td>40</td>
<td>160</td>
</tr>
</tbody>
</table>

Source:

The size of the family having below three members in the respondent farmer households were noticed highest in C Grade Rythu Bazaars with 27.5 per cent followed by D Grade Rythu Bazaars with 20 per cent whereas it was very less in both B and A Grade Rythu Bazaars, where the size of the family was 7.5 per cent and 5 per cent respectively.

The size of the family having between 4 to 5 members in the respondent farmer households were noticed highest in D Grade Rythu Bazaar with 57.5 per cent followed by A Grade Rythu Bazaar with 52.5 per cent, B Grade Rythu Bazaar with 47.5 per cent whereas it was noticed least in C Grade Rythu Bazaar with 40 per cent.

The size of the family having between 6 and 7 members in the respondent farmer households were noticed highest in A Grade Rythu Bazaar with 35 per cent followed by B Grade Rythu Bazaar with 27.5 per cent, C Grade Rythu Bazaar with 22.5 per cent whereas it was noticed least in D Grade Rythu Bazaars with only 17.5 per cent.

It is noticed from the table that majority of about 49.38 per cent of the farmer respondent households were having the 6 to 7 members in their family followed by 6 to 7 members and 10 per cent of the farmer respondent households were having more
than eight members in their family. It is important to note that about 15 per cent of
the respondent farmer households were having the below three members in their
family.

The size of the family having more than eight members in the farmer
respondent household was noticed highest in B Grade Rythu Bazaar with 17.5 per
cent followed by C Grade Rythu Bazaar with 10 per cent, A Grade Rythu Bazaar with
7.5 per cent whereas it was noticed least in D Grade Rythu Bazaars with only 5 per
cent.

It is observed from the field study that the size of the family having below
three members in the respondent farmer households especially in C and D Grade
Rythu Bazaars were getting one variety of vegetable produce from their crops in
addition to getting more varieties from other neighbouring villages / farmer crops. In
some instances, it is also true that age above 60 years were getting the vegetable
produce from their children growing at villages and selling it in the Rythu Bazaars. In
other words, the old age people were completely turned to marketing activity of
vegetable produce as they were getting free entry / space for selling their produce,
though they were separated from the family. It is very significant to state that
especially in A Grade Rythu Bazaars farmer respondents were need not to stay for a
longer duration and hence, if there is size of the family less then they would able to
bring their vegetable produce to their respective Rythu Bazaar and sell it within 2 to 3
hours thereby getting huge profits.

4.1.7 Distribution of Farmer Sellers by Number of Persons Depending on
Agriculture related Activity in the Household:

Performance and attendance of Farmers to the Rythu Bazaars is depended on
number of persons depending on Agriculture and its related activity in the Household.
Now a days, joint families are becoming disintegrating due to several reasons such as
self respect, individuality, industrialisation, urbanization, modernisation,
enlightenment of women etc. Hence, the impact of family size depending on
Agriculture is considered significant. Agriculture related activity here means activity
which is directly or indirectly related to the agriculture such as Marketing of
vegetables at various places like Rythu Bazaars, Wholesale Markets, having their own
transportation facility to bring their vegetable produce to the Market along with
earning additional income on that transportation facility. It is also noted that in
addition to these members, revealed in the present table, children who also would
attend the agriculture activity along with their studies that type of characteristics have not been included in the present study.

<table>
<thead>
<tr>
<th>Persons Depending on Agriculture and related Activity</th>
<th>‘A’ Gr RB</th>
<th>‘B’ Gr RB</th>
<th>‘C’ Gr RB</th>
<th>‘D’ Gr RB</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
<td>16</td>
<td>19</td>
<td>21</td>
<td>27</td>
<td>83</td>
</tr>
<tr>
<td></td>
<td>40.00%</td>
<td>47.50%</td>
<td>52.50%</td>
<td>67.50%</td>
<td>51.88%</td>
</tr>
<tr>
<td>3 to 4</td>
<td>21</td>
<td>19</td>
<td>18</td>
<td>13</td>
<td>71</td>
</tr>
<tr>
<td></td>
<td>52.50%</td>
<td>47.50%</td>
<td>45.00%</td>
<td>32.50%</td>
<td>44.38%</td>
</tr>
<tr>
<td>5 &gt;</td>
<td>3</td>
<td>2</td>
<td>1</td>
<td>0</td>
<td>6</td>
</tr>
<tr>
<td></td>
<td>7.50%</td>
<td>5.00%</td>
<td>2.50%</td>
<td>0.00%</td>
<td>3.75%</td>
</tr>
<tr>
<td>Total</td>
<td>40</td>
<td>40</td>
<td>40</td>
<td>40</td>
<td>160</td>
</tr>
</tbody>
</table>

Source: Primary Data

It is evident from the table that majority percentage of respondent farmer sellers were noticed with two members in the family depending on Agriculture and its related activity followed by 3 to 4 members with 44.38 per cent of the respondent farmer sellers whereas it was noticed only 3.75 per cent where the number of persons depending on Agriculture and its related activity with more then five members in the family among different Grades of Rythu Bazaars.

The least number of persons (two members) depending on Agriculture and its related activity was noticed highest in D Grade Rythu Bazaar with 67.5 per cent respondent farmer seller families followed by C Grade Rythu Bazaars with 52.5 per cent families, B Grade Rythu Bazaars with 47.5 per cent whereas it was noticed least in A Grade Rythu Bazaar with 40 per cent respondent farmer seller families.

On the other hand, highest number of persons (more than five members) depending on Agriculture and its related activity was noticed highest in A Grade Rythu Bazaar with only 7.5 per cent families followed by B Grade Rythu Bazaars with 5 per cent families and C Grade Rythu Bazaars with only 2.5 per cent respondent farmer seller families none of the respondent farmer seller families were identified with more than five members depending on Agriculture and its related activity in D Grade Rythu Bazaars.

The average family members of 3 to 4 depending on Agriculture and its related activity was noticed highest again in A Grade Rythu Bazaar with 52.5 per cent respondent families followed by B Grade Rythu Bazaars with 47.5 per cent
respondent families, C Grade Rythu Bazaars with 45 per cent families whereas it was noticed least with 32.5 per cent respondent farmer seller families with 3 to 4 members depending on Agriculture and its related activity.

It is observed from the field study that in A Grade Rythu Bazaars most of the farmer respondents were having two persons, who are depending on Agriculture and its related activity, were able to maintain both agriculture and marketing activity very efficiently because one person works in the agriculture field and rest of another person is taking the vegetable produce to the Market and sells his whole quantity of produce within two to three hours and left out to his home and again involves in the agriculture activity. On the other hand, in D Grade Rythu Bazaars, earlier the elders who were engaged in the marketing of vegetable produce activity and their children were engaged in the agriculture field activity in the village. After setting up of Rythu Bazaars, it was very difficult for them to stay since morning 6^0 Clock to Evening 8^0 Clock and hence they permanently settled in the nearby respective Rythu Bazaar towns / cities and they were not at all engaging in the agriculture activity but they buy the vegetable produce from their children in the field.

4.1.8 Distribution of Farmer Respondents by Type of Land Holding:

Most part of the Indian Agriculture is Dry Land Agriculture and hence most of the farmers are growing vegetables in rainy season only. On the other hand, consumption of vegetables is throughout the year and hence demand for the vegetables in off season is very high. It is significant to note that water is important component for vegetable crop production. An adequate water supply is essential to maximise both quality and crop yield for a given period of time. It is also an important tool, enhancing crop establishment, chemical weed control and harvesting of root vegetables. By providing irrigation facilities, fruits and vegetable production can be expected throughout year and hence, fluctuations in the prices also can be reduced. It is in this context, Distribution of Farmers by Type of Land Holding is considered significant.
<table>
<thead>
<tr>
<th>Type of Land</th>
<th>A’ Gr RB</th>
<th>B’ Gr RB</th>
<th>C’ Gr RB</th>
<th>D’ Gr RB</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Irrigated Land</td>
<td>31</td>
<td>23</td>
<td>14</td>
<td>8</td>
<td>76</td>
</tr>
<tr>
<td>Dry Land</td>
<td>9</td>
<td>17</td>
<td>26</td>
<td>32</td>
<td>84</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>40</strong></td>
<td><strong>40</strong></td>
<td><strong>40</strong></td>
<td><strong>40</strong></td>
<td><strong>160</strong></td>
</tr>
</tbody>
</table>

Source: Primary Data

It is significant to note that about 52.5 per cent of the farmer respondents were growing vegetables in the dry land areas whereas 47.5 per cent of the farmer respondents were growing vegetables in the irrigated lands among different grades of Rythu Bazaar areas.

Highest percentage of respondent farmers of 77.5 per cent were having the irrigation facilities in A Grade Rythu Bazaar area followed by 57.5 per cent were having irrigation facilities in B Grade Rythu Bazaars, C Grade Rythu Bazaars with 35 per cent whereas it was noticed least in D Grade Rythu Bazaars with 20 per cent.

On the other hand, farmer sellers depending on Dry Land Agriculture was noticed highest in D Grade Rythu Bazaars with 80 per cent farmers followed by C Grade Rythu Bazaars with 65 per cent, B Grade Rythu Bazaars with 42.5 per cent whereas it was noticed lowest in A Grade Rythu Bazaars with only 22.5 per cent of the respondent farmer sellers.

One of the reasons behind the supply of sufficient vegetables in the A Grade Rythu Bazaars throughout the year was having irrigation facilities for the farmers and vice versa.

4.1.9 Extent of Land Holding of Rythu Bazaar Farmer:

Fluctuation in the quantity arrivals is influenced by the Extent of Land Holding of the farmer sellers in the Respective Rythu Bazaars. Farmers having below two acres generally treated as Small Farmers, 2 – 5 Acres Marginal Farmers, having 5 – 10 acres Medium Farmers and farmers having 10 Acres and above treated as Large Farmers. It is also true that Rythu Bazaars meant for only small and marginal farmers only. Hence, from this table, we can assess that whether the Rythu Bazaars are following the basic principle or not. Hence, the present table on Extent of Land Holding of Rythu Bazaar Farmer is considered significant.
### Table – 4.1.9
Extent of Land Holding of Rythu Bazar Farmer

<table>
<thead>
<tr>
<th>Type of Land</th>
<th>‘A’ Gr RB</th>
<th>‘B’ Gr RB</th>
<th>‘C’ Gr RB</th>
<th>‘D’ Gr RB</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt; 2 Acres</td>
<td>7 (17.50%)</td>
<td>8 (20.00%)</td>
<td>3 (7.50%)</td>
<td>2 (5.00%)</td>
<td>20 (12.50%)</td>
</tr>
<tr>
<td>2 – 5 Acres</td>
<td>18 (45.00%)</td>
<td>14 (35.00%)</td>
<td>9 (22.50%)</td>
<td>7 (17.50%)</td>
<td>48 (30.00%)</td>
</tr>
<tr>
<td>5 - 10 Acres</td>
<td>10 (25.00%)</td>
<td>16 (40.00%)</td>
<td>17 (42.50%)</td>
<td>19 (47.50%)</td>
<td>62 (38.75%)</td>
</tr>
<tr>
<td>&gt; 10 Acres</td>
<td>5 (12.5%)</td>
<td>2 (5%)</td>
<td>11 (27.5%)</td>
<td>12 (30%)</td>
<td>30 (18.75%)</td>
</tr>
<tr>
<td>Total</td>
<td>40</td>
<td>40</td>
<td>40</td>
<td>40</td>
<td>160</td>
</tr>
</tbody>
</table>

**Source:** Primary Data

About 38.75 per cent of the respondent farmers having the 5 – 10 acres of land followed by Marginal farmers having 2 – 5 acres of land with 30 per cent respondent farmers, 18.75 per cent of the respondent farmers were noticed as Large farmers whereas Small Farmers were noticed only 12.5 per cent among different Grades of Rythu Bazaars.

Small farmers were noticed highest in B Grade Rythu Bazaars with 20 per cent followed by A Grade Rythu Bazaars with 17.5 per cent whereas in rest of two C and D Grade Rythu Bazaars having the small farmers were with only 7.5 per cent and 5 per cent respectively.

Medium farmers having 5 to 10 acres of land were noticed highest in D Grade Rythu Bazaars with 30 per cent followed by C Grade Rythu Bazaars with 27.5 per cent, A Grade Rythu Bazaars with 12.5 per cent whereas it was noticed least in B Grade Rythu Bazaars with only 5 per cent.

Marginal farmers having 2 – 5 Acres of land were noticed highest in A Grade Rythu Bazaar with 45 per cent followed by B Grade Rythu Bazaars with 35 per cent, C Grade Rythu Bazaars with 22.5 per cent whereas it was noticed least in D Grade Rythu Bazaars with only 17.5 per cent.

Large farmers having more the 10 acres of land was noticed highest in D Grade Rythu Bazaars with 30 per cent followed by C Grade Rythu Bazaars with 27.5 per cent, A Grade Rythu Bazaars with 12.5 per cent whereas it was noticed least in the B Grade Rythu Bazaars with only 5 per cent.
It is observed from the field study that the officials were entering the farmer details only for vegetable cultivation area but they were not considering the whole land.

4.1.10 Land Utilization Pattern:

It is well known fact that the farmers do not totally depending on vegetable cultivation. Part of the land is utilized for growing rice and some part of the land is utilized for commercial crops only meagre percentage of land is utilized for the cultivation of vegetables. Hence, the present table on Land Utilisation Pattern is considered significant. Because it decides the production in that Rythu Bazaar area in various seasons and different variety of vegetables can be expected to that Rythu Bazaars.

<table>
<thead>
<tr>
<th>Type of Land (In Acres)</th>
<th>‘A’ Gr RB</th>
<th>‘B’ Gr RB</th>
<th>‘C’ Gr RB</th>
<th>‘D’ Gr RB</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Average Land Irigated</td>
<td>3.33 (0.54)</td>
<td>2.79 (0.36)</td>
<td>2.44 (0.33)</td>
<td>2.13 (0.22)</td>
<td>2.673 (0.35)</td>
</tr>
<tr>
<td>Average Land under Vegetable Cultivation</td>
<td>1.43 (0.23)</td>
<td>0.98 (0.13)</td>
<td>0.87 (0.12)</td>
<td>0.73 (0.08)</td>
<td>1.003 (0.13)</td>
</tr>
<tr>
<td>Average Veg Cultivation Area under Irrigation</td>
<td>0.97 (0.16)</td>
<td>0.79 (0.10)</td>
<td>0.66 (0.09)</td>
<td>0.51 (0.05)</td>
<td>0.733 (0.10)</td>
</tr>
<tr>
<td>Average Total Land</td>
<td>6.14</td>
<td>7.75</td>
<td>7.37</td>
<td>9.53</td>
<td>7.698</td>
</tr>
</tbody>
</table>

Source : Primary Data

Note: Figures in brackets indicates the Ratio of Area to the Average Total Land

The average land under vegetable cultivation was highest in A Grade Rythu Bazaars with 1.43 acres of land followed by 0.98 acres in B Grade Rythu Bazaars, 0.87 acres of land in C Grade Rythu Bazaars whereas it was noticed very least in D Grade Rythu Bazaars with only 0.73 acres of land.

The average land was noticed highest in D Grade Rythu Bazaars with 9.53 acres of land followed by B Grade Rythu Bazaars with 7.75 acres of land, C Grade Rythu Bazaars with 7.37 acres of land whereas the same was appeared least in A Grade Rythu Bazaar with only 6.14 acres of land.

The availability of average land per farmer among the Different Grades of Rythu Bazaars was about 7.698 Acres. In that, about 0.35 ratio of land was irrigated followed by 0.13 ratio was being utilized under vegetable cultivation and only 0.10 ratio of vegetables growing areas was under irrigation in the state as a whole. In other
words, the average land per farmer sell was about 7.698 acres. In that, about 2.673 acres of land was under irrigation followed by 1.003 acres of land was being under vegetable cultivation whereas only 0.733 acres of land was under vegetable cultivation, which is having the irrigation facilities in the state of Andhra Pradesh.

The ratio of land under irrigation facilities was highest in A Grade Rythu Bazaars with 0.54 per cent followed by B Grade Rythu Bazaars with 0.36 per cent, C Grade Rythu Bazaars with 0.33 per cent whereas it was noticed least in D Grade Rythu Bazaars with only 0.22 ratio of land to the total land.

The average irrigated land under vegetable cultivation was highest in A Grade Rythu Bazaar with 0.97 acres of land followed by B Grade Rythu Bazaars with 0.79 acres of land, C Grade Rythu Bazaars with 0.66 acres of land whereas it was noticed least in D Grade Rythu Bazaars with only 0.51 acres of land. In other words, farmer sellers depending on dry land cultivation was very high in D Grade Rythu Bazaars and on the against the average land under irrigation cultivated for vegetable production was highest in A Grade Rythu Bazaars.

4.1.11 Association with Rythu Bazaars:

Long association with same institution gives signal that Rythu Bazaars and farmers are satisfied with each other. In other words, farmers generally be continued to get the vegetables to the Rythu bazaars when they will get more margin and vice versa. On the other hand, less experience means new farmers are being attracted by the Rythu Bazaars by its facilities and support to the farmers. It is reflected in the present table that Experience of Respondent Farmers in Rythu Bazaars.

<table>
<thead>
<tr>
<th>Caste Category</th>
<th>A’ Gr RB</th>
<th>B’ Gr RB</th>
<th>C’ Gr RB</th>
<th>D’ Gr RB</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>One Year</td>
<td>5</td>
<td>7</td>
<td>4</td>
<td>2</td>
<td>18</td>
</tr>
<tr>
<td></td>
<td>12.50%</td>
<td>17.50%</td>
<td>10.00%</td>
<td>5.00%</td>
<td>11.25%</td>
</tr>
<tr>
<td>Two Years</td>
<td>14</td>
<td>13</td>
<td>6</td>
<td>12</td>
<td>45</td>
</tr>
<tr>
<td></td>
<td>35.00%</td>
<td>32.50%</td>
<td>15.00%</td>
<td>30.00%</td>
<td>28.13%</td>
</tr>
<tr>
<td>Five Years</td>
<td>10</td>
<td>9</td>
<td>14</td>
<td>3</td>
<td>36</td>
</tr>
<tr>
<td></td>
<td>25.00%</td>
<td>22.50%</td>
<td>35.00%</td>
<td>7.50%</td>
<td>22.50%</td>
</tr>
<tr>
<td>Since Estt of RBs</td>
<td>11</td>
<td>11</td>
<td>16</td>
<td>23</td>
<td>61</td>
</tr>
<tr>
<td></td>
<td>27.50%</td>
<td>27.50%</td>
<td>40.00%</td>
<td>57.50%</td>
<td>38.13%</td>
</tr>
<tr>
<td>Total</td>
<td>40</td>
<td>40</td>
<td>40</td>
<td>40</td>
<td>160</td>
</tr>
</tbody>
</table>

Source: Primary Data
Rythu Bazaar services were being utilized by the Farmers since its inception / establishment of the programme in their respective place was noticed highest in D Grade Rythu Bazaars with 57.5 per cent of the farmers followed by C Grade Rythu Bazaars with 40 per cent whereas it was noticed least in both A and B Grade Rythu Bazaars with only 27.5 per cent of the farmers. In other words, highest percentage of farmers continued to utilize the services of Rythu Bazaars was in D Grade Rythu Bazaars whereas it was low in both A and B Grade Rythu Bazaars.

Highest percentage (about 38.13 per cent) of respondent farmers were utilising the services of Rythu Bazaars since its inception of the programme of the Rythu Bazaars at their respective places followed by 28.13 per cent of the respondent farmers were utilizing the services of Rythu Bazaars for the last two years only, about 22.5 per cent of the respondent farmers were utilizing the services of Rythu Bazaars for the last five years whereas it was noticed least with 11.25 per cent of the farmer respondents were utilizing the services of Rythu Bazaars for the last one year only.

Rythu Bazaar services were being utilized by the farmers for the last one year was noticed highest in B Grade Rythu Bazaar with 17.5 per cent followed by A Grade Rythu Bazaars with 12.5 per cent, C Grade Rythu Bazaars with 10 per cent whereas it was noticed very low in D Grade Rythu Bazaars with only five per cent of the farmers.

Rythu Bazaar services were being utilized by the farmers for the last two years was noticed highest in A Grade Rythu Bazaars with 35 per cent of the farmers followed by B Grade Rythu Bazaars with 32.5 per cent, D Grade Rythu Bazaar with 30 per cent farmers whereas it was noticed least in C Grade Rythu Bazaars with only 15 per cent.

Rythu Bazaar services were being utilized by the farmers for last five years was noticed highest in C Grade Rythu Bazaars with 35 per cent of the farmers followed by A Grade Rythu Bazaars with 25 per cent, B Grade Rythu Bazaars with 22.5 per cent whereas it was noticed very low in D Grade Rythu Bazaars with only 7.5 per cent.

It is observed from the field study that majority of the farmers associated with C and D Grade Rythu Bazaars were generally be permanent due to lots of space availability in the Rythu Bazaar whereas in A and B Grade Rythu Bazaars, lack of space / less availability of stalls is the main cause for not able to utilize the services of Rythu Bazaars in a long term.
4.1.12 Attendance of Farmer Sellers at Rythu Bazaars per week:

Being a farmer, it is very difficult to sell his own product by his own to the consumers directly unless it is huge profitable. On the one hand, Farmer will get huge profits and on the other hand it is very affordable when availability of quantity equal whenever necessary. It is observed from the field study that it is practice that most of the farmers were harvesting their vegetable produce day by day and also brings it to Rythu Bazaars day by day only. Because of disintegration of joint family system in present day world, one day they work in the field and harvest it and next day they will take it to Rythu Bazaars to sell their whole produce. On the other hand, Consumer also not buy daily once buy they will preserve it for two to three days in the refrigerator and some people will store for two to three days. Hence, demand for the vegetable produce will not be daily from the same person but for every two to three days. It is in this context, the present table attendance of Farmer Sellers at Rythu Bazaars in a Week is considered significant.

<table>
<thead>
<tr>
<th>Caste Category</th>
<th>A’ Gr RB</th>
<th>B’ Gr RB</th>
<th>C’ Gr RB</th>
<th>D’ Gr RB</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>2 to 3 days</td>
<td>12</td>
<td>5</td>
<td>12</td>
<td>2</td>
<td>31</td>
</tr>
<tr>
<td></td>
<td>30.00%</td>
<td>12.50%</td>
<td>30.00%</td>
<td>5.00%</td>
<td>19.38%</td>
</tr>
<tr>
<td>4 to 5 days</td>
<td>14</td>
<td>14</td>
<td>10</td>
<td>12</td>
<td>50</td>
</tr>
<tr>
<td></td>
<td>35.00%</td>
<td>35.00%</td>
<td>25.00%</td>
<td>30.00%</td>
<td>31.25%</td>
</tr>
<tr>
<td>Six Days</td>
<td>5</td>
<td>9</td>
<td>7</td>
<td>8</td>
<td>29</td>
</tr>
<tr>
<td></td>
<td>12.50%</td>
<td>22.50%</td>
<td>17.50%</td>
<td>20.00%</td>
<td>18.13%</td>
</tr>
<tr>
<td>Week Long</td>
<td>9</td>
<td>12</td>
<td>11</td>
<td>18</td>
<td>50</td>
</tr>
<tr>
<td></td>
<td>22.50%</td>
<td>30.00%</td>
<td>27.50%</td>
<td>45.00%</td>
<td>31.25%</td>
</tr>
<tr>
<td>Total</td>
<td>40</td>
<td>40</td>
<td>40</td>
<td>40</td>
<td>160</td>
</tr>
</tbody>
</table>

Source: Primary Data

Vegetables were being sold in Rythu Bazaars by the majority of the farmers of about 31.25 per cent for 4 to 5 days in a week and week long followed by 19.38 per cent for 2 to 3 days in a week whereas it was least by the farmers with 18.13 per cent for six days in a week among different grades of Rythu Bazaars in the state of Andhra Pradesh.

Vegetables were being sold at Rythu Bazaars for week long by the farmers were noticed highest in the D Grade Rythu Bazaars with 45 per cent followed by B Grade Rythu Bazaars with 30 per cent, C Grade Rythu Bazaars with 27.5 per cent whereas it was noticed least in A Grade Rythu Bazaars with only 22.5 per cent of the
farmers. Vegetables were being sold at respective Rythu Bazaars for six days in a week was noticed highest in B Grade Rythu Bazaars with 22.5 per cent followed by D Grade Rythu Bazaars with 20 per cent, C Grade Rythu Bazaars with 17.5 per cent whereas it was noticed least in A Grade Rythu Bazaars with only 12.5 per cent of the farmers. Vegetables were being sold at Rythu Bazaars for 4 to 5 days in a week was noticed highest in both A and B Grade Rythu Bazaars with 35 per cent followed by D Grade Rythu Bazaars with 30 per cent whereas it was noticed lowest in C Grade Rythu Bazaar with only 25 per cent of the farmers. Vegetables were being sold in Rythu Bazaars for 2 to 3 days in a week was noticed highest in both A and C Grade Rythu Bazaars with 30 per cent farmers followed by B Grade Rythu Bazaars with 12.5 per cent whereas it was noticed least in D Grade Rythu Bazaars with only 5 per cent.

4.1.13 No. of Hours staying at Rythu Bazaars:

As being a farmer, it is very difficult to stay day long at their respective Rythu Bazaars for getting nominal profits. Number of hours staying is depending on demand of that product and quantity they brought to the Rythu Bazaar. If the demand for the product is very high then the farmer seller can sell their produce within two to three hours time and go back to his / her home. On other hand, if the farmer seller gets less produce though there is less demand it will take time to sell whole produce within two to three hours. Hence, the present table number of hours staying by Farmers at Rythu Bazaars is considered significant.

<table>
<thead>
<tr>
<th>Caste Category</th>
<th>A' Gr RB</th>
<th>B' Gr RB</th>
<th>C' Gr RB</th>
<th>D' Gr RB</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>2 - 3 Hrs</td>
<td>22</td>
<td>5</td>
<td>0</td>
<td>0</td>
<td>27</td>
</tr>
<tr>
<td></td>
<td>55.00%</td>
<td>12.50%</td>
<td>0.00%</td>
<td>0.00%</td>
<td>16.88%</td>
</tr>
<tr>
<td>3 - 6 Hrs</td>
<td>13</td>
<td>8</td>
<td>6</td>
<td>3</td>
<td>30</td>
</tr>
<tr>
<td></td>
<td>32.50%</td>
<td>20.00%</td>
<td>15.00%</td>
<td>7.50%</td>
<td>18.75%</td>
</tr>
<tr>
<td>6 - 8 Hrs</td>
<td>5</td>
<td>18</td>
<td>13</td>
<td>8</td>
<td>44</td>
</tr>
<tr>
<td></td>
<td>12.50%</td>
<td>45.00%</td>
<td>32.50%</td>
<td>20.00%</td>
<td>27.50%</td>
</tr>
<tr>
<td>&gt; 8 Hrs</td>
<td>0</td>
<td>9</td>
<td>21</td>
<td>29</td>
<td>59</td>
</tr>
<tr>
<td></td>
<td>0.00%</td>
<td>22.50%</td>
<td>52.50%</td>
<td>72.50%</td>
<td>36.88%</td>
</tr>
<tr>
<td>Total</td>
<td>40</td>
<td>40</td>
<td>40</td>
<td>40</td>
<td>160</td>
</tr>
</tbody>
</table>

Source: Primary Data

Farmer sellers staying eight and above hours to sell their whole produce at Rythu Bazaars was noticed highest in D Grade Rythu Bazaars with 72.5 per cent of
farmer sellers followed by C Grade Rythu Bazaars with 52.5 per cent and B Grade Rythu Bazaars with 22.5 per cent farmer sellers whereas in A Grade Rythu Bazaar no one farmer seller was sitting more than eight hours in a day for selling their whole vegetable produce in the Rythu Bazaar.

 Majority of farmer sellers were staying eight hours and above to sell their whole produce in the Rythu Bazaars followed staying by 6 to 8 hours by about 27.5 per cent of the farmers, staying 3 to 6 hours by about 18.75 per cent of the farmer sellers whereas about 16.88 per cent of the farmer sellers were staying only 2 to 3 hours a day at Rythu Bazaars to sell their whole produce brought per trip. Farmer sellers staying minimum of 2 – 3 hours a day to sell his / her whole produce at Rythu Bazaar was noticed highest in A Grade Rythu Bazaars with 55 per cent of farmer sellers followed by B Grade Rythu Bazaars with only 12.5 per cent whereas no farmer seller was sitting at Rythu Bazaar both in C and D Grade Rythu Bazaars in the study area. Farmer sellers staying 3 – 6 hours at Rythu Bazaars to sell their whole produce was noticed highest again A Grade Rythu Bazaars with 32.5 per cent followed by B Grade Rythu bazaars with 20 per cent farmer sellers, C Grade Rythu Bazaars with 15 per cent whereas it was noticed least in D Grade Rythu Bazaars with 7.5 per cent of farmer sellers. Farmer sellers staying 6 – 8 hours a day to sell their whole produce at Rythu Bazaars was noticed highest in B Grade Rythu Bazaars with 45 per cent followed by C Grade Rythu Bazaars with 32.5 per cent, D Grade Rythu Bazaars with 20 per cent whereas it was noticed least in A Grade Rythu Bazaars with only 12.5 per cent of farmer sellers.

 It is observed from the field study that majority of the farmer sellers were staying 2 – 6 hours at A and B Grade Rythu Bazaars whereas it was minimum 6 to 10 hours a day to sell his / her whole produce in the C and D Grade Rythu Bazaars. It is because location that is accessible for all categories of people to buy vegetables in the A and B Grade Rythu Bazaars and vice versa in case of C and D Grade Rythu Bazaars.

4.1.14 Quantity of Vegetable Produce brought by Farmer sellers to Rythu Bazaars per Trip:

On the one hand, how much time a farmer can spend at Rythu Bazaar to sell his / her whole vegetable produce and how much he can earn from the produce he brought from the home can easily be known from the table that quantity of produce he brings per a trip and on the other hand, how best the Rythu Bazaar is giving services
to the consumers by providing number of varieties and large number of quantities for the consumers can also be known from this information. It is in this context, the present table quantity of vegetable produce brought by farmers to Rythu Bazaars per trip is considered significant.

### Table – 4.1.14

**Quantity of Vegetables brought by Farmers to Rythu Bazaars per Trip**

<table>
<thead>
<tr>
<th>Caste Category</th>
<th>A’ Gr RB</th>
<th>B’ Gr RB</th>
<th>C’ Gr RB</th>
<th>D’ Gr RB</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt; 100 Kgs</td>
<td>5</td>
<td>9</td>
<td>17</td>
<td>22</td>
<td>53</td>
</tr>
<tr>
<td></td>
<td>12.50%</td>
<td>22.50%</td>
<td>42.50%</td>
<td>55.00%</td>
<td>33.13%</td>
</tr>
<tr>
<td>100 - 200 Kgs</td>
<td>16</td>
<td>8</td>
<td>13</td>
<td>17</td>
<td>54</td>
</tr>
<tr>
<td></td>
<td>40.00%</td>
<td>20.00%</td>
<td>32.50%</td>
<td>42.50%</td>
<td>33.75%</td>
</tr>
<tr>
<td>200 - 300 Kgs</td>
<td>14</td>
<td>10</td>
<td>7</td>
<td>1</td>
<td>32</td>
</tr>
<tr>
<td></td>
<td>35.00%</td>
<td>25.00%</td>
<td>17.50%</td>
<td>2.50%</td>
<td>20.00%</td>
</tr>
<tr>
<td>300 - 400 Kgs</td>
<td>5</td>
<td>13</td>
<td>3</td>
<td>0</td>
<td>21</td>
</tr>
<tr>
<td></td>
<td>12.50%</td>
<td>32.50%</td>
<td>7.50%</td>
<td>0.00%</td>
<td>13.13%</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>40</strong></td>
<td><strong>40</strong></td>
<td><strong>40</strong></td>
<td><strong>40</strong></td>
<td><strong>160</strong></td>
</tr>
</tbody>
</table>

**Source: Primary Data**

The quantity of about 200 – 300 Kgs of vegetable produce was being sold by highest percentage of farmer sellers (about 35 per cent) was noticed in A Grade Rythu Bazaar followed by 25 per cent of farmer sellers in B Grade Rythu Bazaars, 17.5 per cent of farmer sellers in C Grade Rythu Bazaars whereas it was noticed least with only 2.5 per cent of farmer sellers in D Grade Rythu Bazaars.

Least quantity of below 100 Kgs of vegetable produce was being sold highest in D Grade Rythu Bazaars with 55 per cent of the farmer sellers followed by 42.5 per cent of the farmer sellers in C Grade Rythu Bazaars, 22.5 per cent of farmer sellers in B Grade Rythu Bazaars whereas it was noticed very least with 12.5 per cent of farmer sellers in A Grade Rythu Bazaars.

Majority of about 33.75 per cent of the farmer sellers were selling 100 – 200 Kgs of vegetable produce in their respective Rythu Bazaars followed by 33.13 per cent of farmer sellers were selling below 100 Kgs of vegetable produce, 20 per cent of the farmer sellers were selling 200 – 300 Kgs per day whereas least percentage of farmer sellers (13.13 per cent) were selling highest quantity of 300 – 400 Kgs per day in their respective Rythu Bazaars in the state as a whole.

The quantity of about 100 – 200 Kgs of vegetable produce was being sold by highest percent of farmer sellers noticed in D Grade Rythu Bazaars with 42.5 per cent...
followed by A Grade Rythu Bazaars with 40 per cent of farmer sellers, C Grade Rythu Bazaars with 32.5 per cent of the farmer sellers whereas it was noticed least with 20 per cent farmer sellers at B Grade Rythu Bazaars.

Highest quantity of 300 – 400 Kgs of vegetable produce was being sold by highest percentage of farmer sellers (32.5 per cent) in B Grade Rythu Bazaars followed by B Grade Rythu Bazaars with 32.5 per cent at their respective Rythu Bazaars and the same quantity was being sold by 7.5 per cent of farmer sellers at their respective Rythu Bazaars.

It is observed from the field study that very few farmers, who were not willing to stay at Rythu Bazaars for long time, were selling below 100 Kgs in A Grade Rythu Bazaars and on the other hand, no one farmer was able to sell more than 300 Kgs of vegetable produce at D Grade Rythu Bazaars in the state as a whole.

4.1.15 **No. of vegetable varieties brought by Farmer Sellers to Rythu bazaars per trip:**

Number of varieties of vegetable produce is also equally important for the development of the Rythu Bazaars. The improvement of the Rythu Bazaar is depended on many factors like quality and freshness of the produce, price of the product, availability of quantity arrival of Rythu Bazaars and availability of number of varieties at the Rythu Bazaars. Hence, the present table on Number of vegetable varieties brought per trip by farmer sellers to Rythu Bazaars is considered significant. Vegetables are including vegetables, leafy vegetables, flowers and fruits.

<table>
<thead>
<tr>
<th>Caste Category</th>
<th>A' Gr RB</th>
<th>B' Gr RB</th>
<th>C' Gr RB</th>
<th>D' Gr RB</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt; 2 Varieties</td>
<td>17</td>
<td>3</td>
<td>0</td>
<td>0</td>
<td>20</td>
</tr>
<tr>
<td></td>
<td>42.50%</td>
<td>7.50%</td>
<td>0.00%</td>
<td>0.00%</td>
<td>12.50%</td>
</tr>
<tr>
<td>3 – 4 Varieties</td>
<td>9</td>
<td>5</td>
<td>19</td>
<td>31</td>
<td>64</td>
</tr>
<tr>
<td></td>
<td>22.50%</td>
<td>12.50%</td>
<td>47.50%</td>
<td>77.50%</td>
<td>40.00%</td>
</tr>
<tr>
<td>5 – 6 Varieties</td>
<td>11</td>
<td>18</td>
<td>16</td>
<td>8</td>
<td>53</td>
</tr>
<tr>
<td></td>
<td>27.50%</td>
<td>45.00%</td>
<td>40.00%</td>
<td>20.00%</td>
<td>33.13%</td>
</tr>
<tr>
<td>&gt; 7 Varieties</td>
<td>3</td>
<td>14</td>
<td>5</td>
<td>1</td>
<td>23</td>
</tr>
<tr>
<td></td>
<td>7.50%</td>
<td>35.00%</td>
<td>12.50%</td>
<td>2.50%</td>
<td>14.38%</td>
</tr>
<tr>
<td>Total</td>
<td>40</td>
<td>40</td>
<td>40</td>
<td>40</td>
<td>160</td>
</tr>
</tbody>
</table>

Source: Primary Data

Highest number of varieties (above seven) of vegetable produce was being sold by the majority of about 35 per cent of the farmer sellers noticed in B Grade
Rythu Bazaars followed by 12.5 per cent of farmer sellers in C Grade Rythu Bazaars, 7.5 per cent of farmer sellers in A Grade Rythu Bazaars whereas it was noticed least in D Grade Rythu Bazaars with only 2.5 per cent of the farmer sellers.

Least number of varieties of below two being sold by the farmer sellers was noticed highest in A Grade Rythu Bazaars with 42.5 per cent followed by B Grade Rythu Bazaars with only 7.5 per cent of the farmer sellers whereas it was noticed negligible in both C and D Grade Rythu Bazaars.

Majority of about 40 per cent of the farmer sellers brought the vegetable produce of 3 – 4 varieties followed by 33.13 per cent of the farmer sellers brought the vegetable produce of 5 – 6 varieties, 14.38 per cent of the farmer sellers brought the vegetable produce of above seven varieties whereas least percentage of farmer sellers of about 12.5 per cent brought the vegetable produce of below two varieties in the state as a whole.

Vegetable varieties of 3 -4 numbers were being sold by the majority of about 77.5 per cent of the farmer sellers in D Grade Rythu Bazaars followed by C Grade Rythu Bazaars with 47.5 per cent, A Grade Rythu Bazaars with 22.5 per cent whereas it was noticed least in B Grade Rythu Bazaars with only 12.5 per cent of the farmer sellers.

Vegetable varieties of 5 – 6 numbers were being sold highest in B Grade Rythu Bazaars by 45 per cent of the farmer sellers followed by C Grade Rythu Bazaars by 40 per cent of the farmer sellers, A Grade Rythu Bazaars by 27.5 per cent farmer sellers whereas it was noticed least in D Grade Rythu Bazaars by only 20 per cent of farmer sellers.

It is observed from the table that N numbers of varieties are available and at the same time large numbers of farmer sellers are also available at A Grade Rythu Bazaars. On other hand, only large numbers of farmer sellers were bringing the large number of varieties so that consumers were satisfying with the availability of vegetable produce in at B Grade Rythu Bazaars. Last but not the least, it is significant to note that least produce, less number of varieties were available in D Grade Rythu Bazaars so that demand for the Rythu Bazaar produce is very less followed by C Grade Rythu Bazaars.

4.1.16 Sale of Excess Production:

It is observed from the field study that Large amount of vegetable produce was being marketed in the Whole sale market whereas rest of product was being sold at
Rythu Bazaars by the Farmer sellers in almost all the Rythu Bazaar areas. After bringing some quantity of vegetable produce the farmer was trying to sell his / her vegetable produce in the Rythu Bazaar, if the vegetable produce is exceeded then the farmer seller has to sell his product outside otherwise he lost his excess produce and he should throw it out in the dust bin only. In this context, the present table sale excess vegetable produce is considered significant.

<table>
<thead>
<tr>
<th>Caste Category</th>
<th>A’ Gr RB</th>
<th>B’ Gr RB</th>
<th>C’ Gr RB</th>
<th>D’ Gr RB</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Whole Sale Markets</td>
<td>21</td>
<td>18</td>
<td>17</td>
<td>10</td>
<td>66</td>
</tr>
<tr>
<td></td>
<td>52.50%</td>
<td>45.00%</td>
<td>42.50%</td>
<td>25.00%</td>
<td>41.25%</td>
</tr>
<tr>
<td>Local Markets</td>
<td>9</td>
<td>11</td>
<td>11</td>
<td>17</td>
<td>48</td>
</tr>
<tr>
<td></td>
<td>22.50%</td>
<td>27.50%</td>
<td>27.50%</td>
<td>42.50%</td>
<td>30.00%</td>
</tr>
<tr>
<td>Hostels / Hotels etc.</td>
<td>3</td>
<td>2</td>
<td>1</td>
<td>0</td>
<td>6</td>
</tr>
<tr>
<td></td>
<td>7.50%</td>
<td>5.00%</td>
<td>2.50%</td>
<td>0.00%</td>
<td>3.75%</td>
</tr>
<tr>
<td>No Excess Produce</td>
<td>7</td>
<td>9</td>
<td>9</td>
<td>9</td>
<td>34</td>
</tr>
<tr>
<td></td>
<td>17.50%</td>
<td>22.50%</td>
<td>22.50%</td>
<td>22.50%</td>
<td>21.25%</td>
</tr>
<tr>
<td>Throw out</td>
<td>0</td>
<td>0</td>
<td>2</td>
<td>4</td>
<td>6</td>
</tr>
<tr>
<td></td>
<td>0.00%</td>
<td>0.00%</td>
<td>5.00%</td>
<td>10.00%</td>
<td>3.75%</td>
</tr>
<tr>
<td>Total</td>
<td>40</td>
<td>40</td>
<td>40</td>
<td>40</td>
<td>160</td>
</tr>
</tbody>
</table>

Source: Primary Data

About 41.25 per cent of the respondent’s vegetable excess produce was being sold at Whole Sale Markets followed by 30 per cent of the respondents’ vegetable excess produce was being sold to the Local marketers and equal percentage of about 3.75 per cent respondents’ vegetable excess produce was being sold at various institutions like Hostels, Hotels etc and the equal percentage of vegetable produce was being thrown out in the Rythu Bazaars itself. Only 21.25 per cent of the respondents were saying that there was no excess produce brought to the Rythu Bazaars in the study area.

Among respondents’ vegetable excess produce was being sold at Whole Sale Markets, majority were noticed in A Grade Rythu Bazaars followed by B, C and D Grade Rythu Bazaars with 52.5 per cent, 45%, 42.5 per cent and 25 per cent respectively.

Among respondents’ vegetable excess produce was being sold at Local Markets, majority were noticed in D Grade Rythu Bazaars with 42.5 per cent followed by B and C Grade Rythu Bazaars with 27.5 per cent whereas it was noticed least in A Grade Rythu Bazaars with only 22.5 per cent.
Excess vegetable produce being sold at various institutions like Hostels, Hotels etc. was noticed highest in A Grade Rythu Bazaars with 7.5 per cent of the respondent farmer sellers followed by 5 per cent farmer sellers in B Grade Rythu Bazaars and 2.5 per cent of the farmer sellers in C Grade Rythu Bazaars whereas none of the farmers was noticed in D Grade Rythu bazaars.

Excess vegetable produce was being thrown out at the garbage noticed only C and D Grade Rythu Bazaars by 5 and 10 per cent of the farmer sellers respectively.

No excess produce was being brought out by the farmers was noticed highest in B, C and D Grade Rythu Bazaars with 22.5 per cent of the farmer sellers whereas it was noticed low in A Grade Rythu bazaars with only 17.5 per cent.

It is observed from the field study that initiations were not being taken out by the Estate Officer to link up the farmers with certain Hostels, Hotels, functions etc. It is learnt from the table that about 79 per cent of the farmer respondents are still depending on either local markets or wholesale markets directly or indirectly.

4.1.17 Mode of Transportation:

In developing countries like India, mobility in rural areas is hampered by the lack of all forms of transport facilities and by poor roads which discourage the use of personal transport. Thus, in looking at market channels it is also necessary to understand how they are influenced by transport systems. The best way to gain an understanding of access issues is to start with the agricultural production area - to understand farmers' concerns - including how their relationship with their suppliers, transporters and buyers is influenced by transport. The trade links in the agricultural marketing system are those routes used by farmers and by transporters carrying farmer’s produce. The mode of transport used, the length and time of journey, and the costs of transport will all affect the efficiency of the marketing system. Last but not the least, mode of transport affects the cost and damages in the vegetable produce, which is perishable in nature. It is observed from the field study that some of the farmer sellers were using the own vehicles like two wheelers to bring their vegetable produce to the Rythu Bazaars and most of the farmer sellers were using private transport combined with a group so that cost of transport is reducing. In this context, the present table on Mode of Transport for bringing vegetable produce by the Farmer sellers to the Rythu Bazaars is considered significant.
Individual Rented vehicles was being used as a mode of transport for bringing the vegetable produce to the Rythu Bazaar by the majority farmer sellers with 35 per cent followed by Rented vehicles combined with a group by 25.63 per cent of the farmer sellers, own transportation by 21.88 per cent of the farmer sellers whereas it was noticed Government Vehicle like RTC Bus was being used by 17.5 per cent of the farmer sellers in the state as a whole.

Own vehicle like two wheelers, auto rickshaws were being used by the farmer sellers noticed highest in B Grade Rythu Bazaars with 52.5 per cent of the respondent farmer sellers followed by C Grade Rythu Bazaars with 22.5 per cent and A Grade Rythu Bazaars with 12.5 per cent whereas no one farmer was using the own vehicle in D Grade Rythu Bazaars.

Government Vehicle like RTC Buses were accessible for the farmer sellers highest at A Grade Rythu Bazaars for 52.5 per cent of the farmer sellers followed by B Grade Rythu Bazaars for 12.5 per cent of the farmer sellers and C Grade Rythu Bazaars for only 5 per cent of the farmer sellers whereas Government Transportation Vehicle was not accessible for the D Grade Rythu bazaar farmer sellers.

Rented vehicle combined with a group was being used by the farmer respondents was noticed highest in C Grade Rythu bazaars with 30 per cent farmer sellers followed by A Grade Rythu bazaar with 27.5 per cent of the farmer sellers, B Grade Rythu Bazaars with 25 per cent farmer sellers whereas it was noticed least in D Grade Rythu Bazaar farmer sellers with only 20 per cent.

Rented vehicle being a single was being used as a mode of transport for bringing vegetable produce to the Rythu Bazaars by the majority of the farmer sellers

<table>
<thead>
<tr>
<th>Caste Category</th>
<th>A’ Gr RB</th>
<th>B’ Gr RB</th>
<th>C’ Gr RB</th>
<th>D’ Gr RB</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Own Vehicle</td>
<td>5</td>
<td>21</td>
<td>9</td>
<td>0</td>
<td>35</td>
</tr>
<tr>
<td></td>
<td>12.50%</td>
<td>52.50%</td>
<td>22.50%</td>
<td>0.00%</td>
<td>21.88%</td>
</tr>
<tr>
<td>Govt. Vehicle</td>
<td>21</td>
<td>5</td>
<td>2</td>
<td>0</td>
<td>28</td>
</tr>
<tr>
<td></td>
<td>52.50%</td>
<td>12.50%</td>
<td>5.00%</td>
<td>0.00%</td>
<td>17.50%</td>
</tr>
<tr>
<td>Rented – Group</td>
<td>11</td>
<td>10</td>
<td>12</td>
<td>8</td>
<td>41</td>
</tr>
<tr>
<td></td>
<td>27.50%</td>
<td>25.00%</td>
<td>30.00%</td>
<td>20.00%</td>
<td>25.63%</td>
</tr>
<tr>
<td>Rented - Individual</td>
<td>3</td>
<td>4</td>
<td>17</td>
<td>32</td>
<td>56</td>
</tr>
<tr>
<td></td>
<td>7.50%</td>
<td>10.00%</td>
<td>42.50%</td>
<td>80.00%</td>
<td>35.00%</td>
</tr>
<tr>
<td>Total</td>
<td>40</td>
<td>40</td>
<td>40</td>
<td>40</td>
<td>160</td>
</tr>
</tbody>
</table>

Source: Primary Data
noticed in D Grade Rythu Bazaars with 80 per cent farmer sellers followed by C
Grade Rythu Bazaar farmer sellers with 42.5 per cent, B Grade Rythu Bazaar farmer
sellers with 10 per cent whereas it was noticed least in A Grade Rythu Bazaars with
only 7.5 per cent of the farmer sellers.

Rented vehicles were being used by the farmer sellers were generally be bare
more transportation cost rather than others. On the other hand, most of the Indian
villages are remote areas and there was no transportation facility for these villages at
required time. Hence, majority of the farmer sellers were not able to utilize the RTC
bus services to bring their vegetable produce to the Rythu Bazaars.

**4.1.18 Distance to the Rythu Bazaars from the respective Villages:**

The farm gate price may be very high as the costs of inputs are higher and
transport costs from farmgate to market will also increase because of an increased
distance to the urban area. In other words, transportation cost depends on distance,
accessibility, quality of roads, weighment of produce etc. Hence, the present table
distance from the respective farmer seller village to bring their vegetable produce to
the Rythu Bazaars is considered significant.

<table>
<thead>
<tr>
<th>Distance</th>
<th>A' Gr RB</th>
<th>B' Gr RB</th>
<th>C' Gr RB</th>
<th>D' Gr RB</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt; 5 KMs</td>
<td>3</td>
<td>4</td>
<td>1</td>
<td>0</td>
<td>8</td>
</tr>
<tr>
<td></td>
<td>7.50%</td>
<td>10.00%</td>
<td>2.50%</td>
<td>0.00%</td>
<td>5.00%</td>
</tr>
<tr>
<td>5 - 10 KMs</td>
<td>18</td>
<td>11</td>
<td>9</td>
<td>3</td>
<td>41</td>
</tr>
<tr>
<td></td>
<td>45.00%</td>
<td>27.50%</td>
<td>22.50%</td>
<td>7.50%</td>
<td>25.63%</td>
</tr>
<tr>
<td>10 - 20 KMs</td>
<td>13</td>
<td>17</td>
<td>18</td>
<td>21</td>
<td>69</td>
</tr>
<tr>
<td></td>
<td>32.50%</td>
<td>42.50%</td>
<td>45.00%</td>
<td>52.50%</td>
<td>43.13%</td>
</tr>
<tr>
<td>20 - 50 KMs</td>
<td>4</td>
<td>8</td>
<td>12</td>
<td>16</td>
<td>40</td>
</tr>
<tr>
<td></td>
<td>10.00%</td>
<td>20.00%</td>
<td>30.00%</td>
<td>40.00%</td>
<td>25.00%</td>
</tr>
<tr>
<td>&gt; 50 KMs</td>
<td>2</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>5.00%</td>
<td>0.00%</td>
<td>0.00%</td>
<td>0.00%</td>
<td>1.25%</td>
</tr>
<tr>
<td>Total</td>
<td>40</td>
<td>40</td>
<td>40</td>
<td>40</td>
<td>160</td>
</tr>
</tbody>
</table>

**Source:** Primary Data

Majority of the farmer sellers were bringing their vegetable produce from the
distance of 10 to 20 KMs distance from their respective villages followed by 5 to 10
KMs long by the 25.63 per cent of the farmer sellers, 20 to 50 KMs distance by 25 per
cent of farmer sellers whereas least percentage of farmer sellers were bringing their
vegetable produce from the distance of below five Kilo Meters long and above 50
KMs long 5 and 1.25 per cent by the farmer sellers respectively.
It is great to say that the vegetable produce was being brought from the distance of above 50 KMs long by 5 per cent of the farmer sellers at A Grade Rythu Bazaars.

The distance from the Rythu Bazaars to their respective villages with below 5 KMs long was noticed highest for the farmer sellers of B Grade Rythu Bazaars with 10 per cent followed by A Grade Rythu Bazaars with 7.5 per cent of the farmer sellers and 2.5 per cent of the farmer sellers in C Grade Rythu Bazaars whereas it was noticed negligible in D Grade Rythu Bazaars.

Rythu Bazaar services were being utilized from the distance of about 5 – 10 KMs long by the majority of farmer sellers at A Grade Rythu Bazaars with 45 per cent followed by B Grade Rythu Bazaars with 27.5 per cent, C Grade Rythu Bazaars with 22.5 per cent whereas it was noticed least in D Grade Rythu Bazaars with only 7.5 per cent. The distance from the Rythu Bazaars to their respective villages with 10 – 20 KMs long was noticed highest for the farmer sellers of D Grade Rythu Bazaars with 52.5 per cent followed by C Grade Rythu Bazaars with 45 per cent of the farmer sellers, B Grade Rythu Bazaar with 42.5 per cent whereas it was noticed least for A Grade Rythu Bazaar farmers with 32.5 per cent.

The distance from the Rythu Bazaars to their respective villages with 20 – 50 KMs long was noticed highest for the farmer sellers of D Grade Rythu Bazaars with 40 per cent followed by C Grade Rythu Bazaars with 30 per cent of the farmer sellers, B Grade Rythu Bazaar with 20 per cent whereas it was noticed least for A Grade Rythu Bazaar farmers with 10 per cent.

It is observed from the field study that majority of the farmer respondents complained about the transportation facilities provided by the Government and location of the Rythu Bazaars especially by the D Grade Rythu Bazaar farmer seller respondents.

4.1.19 Average Cost for the Farmer Seller:

Transportation cost depends on many factors like distance from the market, weightment of the produce, mode of transportation used, how many times loading and unloading charges are to pay, bribery to enter into the market or to allot the stall, how much time he is spending to sell his whole produce at Rythu Bazaars etc. In addition to that, it also depends on how the vegetable produce is being packaged so that damage of the produce will be less. Keeping in view of this, the present table total
average cost incurred by the farmer seller to bring one quintal vegetable produce to the Rythu Bazaar is considered significant.

### Table – 4.1.19
Average Cost Incurred by the Farmer to Bring One Quintal Vegetable Produce to the Rythu Bazaar

<table>
<thead>
<tr>
<th>Expenditure in Rs.</th>
<th>A’ Gr RB</th>
<th>B’ Gr RB</th>
<th>C’ Gr RB</th>
<th>D’ Gr RB</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Transportation Charges</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Expenditure in Rs.</td>
<td>17</td>
<td>21</td>
<td>27</td>
<td>36</td>
<td>25.25</td>
</tr>
<tr>
<td>(in Rs.)</td>
<td>(42.50%)</td>
<td>(34.43%)</td>
<td>(36.00%)</td>
<td>(32.14%)</td>
<td>(35.07%)</td>
</tr>
<tr>
<td><strong>Loading &amp; Unloading Charges</strong></td>
<td>3</td>
<td>4</td>
<td>6</td>
<td>12</td>
<td>6.25</td>
</tr>
<tr>
<td>Expenditure in Rs.</td>
<td>(7.50%)</td>
<td>(6.56%)</td>
<td>(8.00%)</td>
<td>(10.71%)</td>
<td>(8.68%)</td>
</tr>
<tr>
<td>(in Rs.)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Bribary / Graft</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Expenditure in Rs.</td>
<td>2</td>
<td>3</td>
<td>5</td>
<td>9</td>
<td>4.75</td>
</tr>
<tr>
<td>(in Rs.)</td>
<td>(5.00%)</td>
<td>(4.92%)</td>
<td>(6.67%)</td>
<td>(8.04%)</td>
<td>(6.60%)</td>
</tr>
<tr>
<td><strong>Staying Expenses</strong></td>
<td>14</td>
<td>27</td>
<td>32</td>
<td>48</td>
<td>30.25</td>
</tr>
<tr>
<td>Expenditure in Rs.</td>
<td>(35.00%)</td>
<td>(44.26%)</td>
<td>(42.67%)</td>
<td>(42.86%)</td>
<td>(42.01%)</td>
</tr>
<tr>
<td>(in Rs.)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Other Expn</strong></td>
<td>4</td>
<td>6</td>
<td>5</td>
<td>7</td>
<td>5.5</td>
</tr>
<tr>
<td>Expenditure in Rs.</td>
<td>(10.00%)</td>
<td>(9.84%)</td>
<td>(6.67%)</td>
<td>(6.25%)</td>
<td>(7.64%)</td>
</tr>
<tr>
<td>(in Rs.)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Total Marketing Cost</strong></td>
<td>40</td>
<td>61</td>
<td>75</td>
<td>112</td>
<td>72</td>
</tr>
<tr>
<td>Expenditure in Rs.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(in Rs.)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Source Primary Data</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Average Cost incurred by the farmer to bring one quintal vegetable produce to the Rythu Bazaar was highest for D Grade Rythu Bazaars followed by C, B and A Grade Rythu Bazaars. In this, highest share of about 42.01 per cent has been gone to staying expenses – during stay at Rythu Bazaars one has to incur some amount especially for tea, snacks, meals, other miscellaneous expenses. Second place goes to Transportation charges which accounts 35.07 per cent in the total marketing cost to bring one quintal vegetable produce to the Rythu Bazaars. Third place goes to loading and unloading charges with 8.68 per cent in the total marketing cost of farmer seller.

Transportation charges incurred by the farmer was highest with Rs.36/- in D Grade Rythu Bazaars to bring one quintal vegetable produce to the Rythu Bazaar followed by C, B and A Grade Rythu Bazaars with Rs.27/-, Rs.21/- and Rs.17/- respectively. On the other hand, the share of transportation charges in the total marketing cost was highest in A Grade Rythu Bazaar with 42.5 per cent followed by C Grade Rythu Bazaars with 36 per cent, B Grade Rythu Bazaars with 34.43 per cent whereas it was noticed in D Grade Rythu Bazaars.

Staying expenses incurred by the farmer sellers to bring one quintal vegetable produce to the Rythu Bazaar was highest in D Grade Rythu Bazaars with Rs.48/- and its share in the total marketing cost was also highest with 42.86 per cent whereas it
was incurred least by A Grade Rythu Bazaar farmer sellers with only Rs.14/- and its share in the total marketing cost was also least with 35 per cent.

Majority of the farmer sellers complaining that officials of Rythu Bazaars were collecting the graft from farmer sellers, who sells their produce in the Rythu Bazaars. It is also significant to note that highest amount was being incurred by the D Grade Rythu Bazaar farmer sellers on loading and unloading charges with Rs.12/- to bring one quintal vegetable produce to the Rythu Bazaar whereas it was noticed least by A Grade Rythu Bazaar farmer sellers with only Rs.3/-.

It is also important to know how many farmer sellers were spending huge amount and hence, the present table on Distribution of Respondents by Total Marketing Cost incurred to bring one quintal vegetable produce to the Rythu Bazaars is considered significant.

<table>
<thead>
<tr>
<th>Average Cost</th>
<th>A' Gr RB</th>
<th>B' Gr RB</th>
<th>C' Gr RB</th>
<th>D' Gr RB</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt; Rs.25/-</td>
<td>6</td>
<td>2</td>
<td>1</td>
<td>0</td>
<td>9</td>
</tr>
</tbody>
</table>
|              | 15.00%   | 3.28%    | 1.33%    | 0.00%    | 12.50%
| Rs.25 to Rs.50 | 13      | 8        | 8        | 4        | 33    |
|              | 32.50%   | 13.11%   | 10.67%   | 3.57%    | 45.83%
| Rs.50 to Rs.75 | 18      | 19       | 8        | 7        | 52    |
|              | 45.00%   | 31.15%   | 10.67%   | 6.25%    | 72.22%
| Rs.75 to Rs.100 | 2       | 8        | 18       | 11       | 39    |
|              | 5.00%    | 13.11%   | 24.00%   | 9.82%    | 54.17%
| > Rs.100/-   | 1        | 3        | 5        | 18       | 27    |
|              | 2.50%    | 4.92%    | 6.67%    | 16.07%   | 37.50%
| Total        | 40       | 40       | 40       | 40       | 160   |

Source: Primary Data

Highest percentage of farmer sellers were spending on Marketing the vegetable produce to the Rythu Bazaars was Rs.50/- to Rs.75/- followed by spending Rs.75/- to Rs.100/-, Rs.25/- to Rs.50/- whereas only 12.5 per cent of the farmer sellers were spending least amount of below Rs.25/-.

Highest amount of Rs.100/- and above was being spent by majority of D Grade Rythu Bazaar farmer sellers (16%). An amount of between Rs.75/- and Rs.100/- was being spent by majority of C Grade Rythu Bazaar farmer respondents (24%). An amount of Rs.50/- to Rs.75/- was being spent by majority of A Grade farmer respondents (45%).
It is clear from the table that majority of the farmer respondents were spending an amount of Rs.100/- from D Grade Rythu Bazaars followed by the spending only Rs. 75/- to Rs.100/- by C Grade Rythu Bazaar farmer sellers with 24 per cent and Rs.50/- to Rs.75/- was being spent by A Grade (45 per cent) and B Grade (31.5 per cent) Rythu Bazaar farmer respondents due to non availability of transportation facilities from their respective villages and lack of canteen services especially in B, C and D Grade Rythu bazaars.

4.1.21 Information Channel available for Farmer Seller on Prices and Demand for the Product:

Advance and Speedy Communication is very essential for selling the product like vegetables because of its perishability nature. Once media is strong then sellers can able to arrange the transportation facilities on their own to sell their produce at reasonable prices in the suitable Rythu Bazaars. Because only very few farmers were selling their produce daily in Rythu Bazaars and hence it is very difficult to get the information on prices and demand for the particular product at different places. Hence, the present table on information channel available for farmer seller on prices and demand for the produce is considered significant.

<table>
<thead>
<tr>
<th>Perceptions of Farmers</th>
<th>A’ Gr RB</th>
<th>B’ Gr RB</th>
<th>C’ Gr RB</th>
<th>D’ Gr RB</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Media</td>
<td>18</td>
<td>16</td>
<td>13</td>
<td>15</td>
<td>62</td>
</tr>
<tr>
<td></td>
<td>45.00%</td>
<td>40.00%</td>
<td>32.50%</td>
<td>37.50%</td>
<td>38.75%</td>
</tr>
<tr>
<td>Co-Farmers</td>
<td>9</td>
<td>8</td>
<td>11</td>
<td>15</td>
<td>43</td>
</tr>
<tr>
<td></td>
<td>22.50%</td>
<td>20.00%</td>
<td>27.50%</td>
<td>37.50%</td>
<td>26.88%</td>
</tr>
<tr>
<td>Through Officials</td>
<td>3</td>
<td>2</td>
<td>5</td>
<td>1</td>
<td>11</td>
</tr>
<tr>
<td></td>
<td>7.50%</td>
<td>5.00%</td>
<td>12.50%</td>
<td>2.50%</td>
<td>6.88%</td>
</tr>
<tr>
<td>Personal Contact with Others</td>
<td>10</td>
<td>14</td>
<td>11</td>
<td>9</td>
<td>44</td>
</tr>
<tr>
<td></td>
<td>25.00%</td>
<td>35.00%</td>
<td>27.50%</td>
<td>22.50%</td>
<td>27.50%</td>
</tr>
<tr>
<td>Total</td>
<td>40</td>
<td>40</td>
<td>40</td>
<td>40</td>
<td>160</td>
</tr>
</tbody>
</table>

Source: Primary Data

Majority of farmer sellers (38.75 per cent) were getting information on prices and demand for the product from Media like ratio, television etc. followed by 27.5 per cent of the farmer sellers were getting the information by spending some amount through mobile channel or by spending time through contacting the person directly, 26.88 per cent of the farmer sellers were getting information from co-farmers whereas
only 6.88 per cent of the farmer sellers were stating that officials were giving the information one day before especially on prices and demand of the product.

There is no choice for the farmer sellers to sell their produce in any of the Rythu Bazaar near to them. Once he gets the ID card for one Rythu Bazaar then he should sell the produce from that Rythu Bazaar only and hence majority of farmer sellers were able to sell only less quantity of vegetable produce.

4.1.22 Training / Awareness Programmes:

Training is needed to upgrade individual’s capacity on marketing their produce on the one hand and on the other hand it will increase the over all performance of the Rythu Bazaars. Training is required for each and every farmer sellers of Rythu Bazaars especially on Marketing Management, Price fluctuations in the wholesale markers, prediction of demand for the product conditions, processing for the different products and its demand, pre-harvesting and post harvesting losses, variety to be produced etc. Hence, role of horticulture Consultant is also very high. Unfortunately, at present very few Horticultural Consultants are being engaged in Rythu Bazaars in the state of Andhra Pradesh. Hence, present table on Number of sellers received training / awareness programmes is considered significant.

<table>
<thead>
<tr>
<th>Perceptions of Farmers</th>
<th>A’ Gr RB</th>
<th>B’ Gr RB</th>
<th>C’ Gr RB</th>
<th>D’ Gr RB</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td>11</td>
<td>9</td>
<td>8</td>
<td>5</td>
<td>33</td>
</tr>
<tr>
<td></td>
<td>27.50%</td>
<td>22.50%</td>
<td>20.00%</td>
<td>12.50%</td>
<td>20.63%</td>
</tr>
<tr>
<td>No</td>
<td>22</td>
<td>20</td>
<td>29</td>
<td>31</td>
<td>102</td>
</tr>
<tr>
<td></td>
<td>55.00%</td>
<td>50.00%</td>
<td>72.50%</td>
<td>77.50%</td>
<td>63.75%</td>
</tr>
<tr>
<td>Don't Know</td>
<td>7</td>
<td>11</td>
<td>3</td>
<td>4</td>
<td>25</td>
</tr>
<tr>
<td></td>
<td>17.50%</td>
<td>27.50%</td>
<td>7.50%</td>
<td>10.00%</td>
<td>15.63%</td>
</tr>
<tr>
<td>Total</td>
<td>40</td>
<td>40</td>
<td>40</td>
<td>40</td>
<td>160</td>
</tr>
</tbody>
</table>

Source: Primary Data

About 63.75 per cent of the farmer respondents agreed that training / awareness programme was not arranged either in the Rythu Bazaars or at the District Head quarters of their respective Rythu Bazaar areas. As against this, about 15.63 per cent of the farmer respondents were not aware of the Training programme to be conducted on different activities like Cooperative management, Marketing Management, Analysis of Demand and Price forecasting methods etc.
4.2 Socio-Economic Profile of Sampled Consumers:

An attempt has been made to depict the actual socio-economic conditions of consumers in the respective Rythu Bazaars. The socio-economic conditions of the consumer respondents enable to capture the present performance of the Rythu Bazaars and Impact of Rythu Bazaars on their daily life relating to the consumption of vegetables in the study area. On the other hand, it is also important to note that problems of Rythu Bazaars by the consumers will give policy solution to the further improvement of marketing efficiency of the Rythu Bazaars. Hence, in this chapter, an attempt has been made to depict the actual socio-economic conditions of 160 sampled vegetable sellers in their respective Rythu Bazaars.

4.2.1 Distribution of Consumer Respondents by Gender:

Gender is more important in the purchasing behaviour of vegetables and household consumable goods. Generally male consumers, who are responsible for the health of the entire family, have more willingness to pay for the vegetables or any household expenditure than female consumers. It is also true that male consumers have less bargaining capacity than female consumers. As for as Rythu Bazaars are concerned, most of the consumers come to Rythu Bazaars regularly and build good relationship with purchasers. So that it is easy for the farmer sellers to identify and satisfy consumer needs. Hence, the present table on Distribution of Consumers by Gender is considered significant.

<table>
<thead>
<tr>
<th>Caste Category</th>
<th>‘A’ Gr RB</th>
<th>‘B’ Gr RB</th>
<th>‘C’ Gr RB</th>
<th>‘D’ Gr RB</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Male</td>
<td>24 (60.00%)</td>
<td>29 (72.50%)</td>
<td>18 (45.00%)</td>
<td>12 (30.00%)</td>
<td>83 (51.88%)</td>
</tr>
<tr>
<td>Female</td>
<td>16 (40.00%)</td>
<td>11 (27.50%)</td>
<td>22 (55.00%)</td>
<td>28 (70.00%)</td>
<td>77 (48.13%)</td>
</tr>
<tr>
<td>Total</td>
<td>40</td>
<td>40</td>
<td>40</td>
<td>40</td>
<td>160</td>
</tr>
</tbody>
</table>

Source: Primary Data

It is observed from the table that male consumer respondents were high with 51.88 per cent whereas female consumer respondents visiting Rythu Bazaars were low with 48.13 per cent.

Male consumer respondents visiting Rythu Bazaars were noticed highest in B Grade Rythu Bazaar with 72.5 per cent followed by A Grade Rythu Bazaar with 60
per cent, C Grade Rythu Bazaar with 45 per cent whereas it was noticed lowest in D Grade Rythu Bazaars with 30 per cent. On the other hand, female consumer respondents visiting Rythu Bazaars were noticed highest in D Grade Rythu Bazaars with 70 per cent followed by C Grade Rythu Bazaar with 55 per cent, A Grade Rythu Bazaar with 40 per cent whereas it was noticed least in B Grade Rythu Bazaar with only 27.5 per cent.

It is also observed from the field study that female consumer respondents were having more bargaining power than male respondents and male consumer respondents were having the more willingness to pay. As farmers’ point of view, male respondents were having the adjustable mentality than female respondents. For instance, if they don’t have change immediately male respondents adjust themselves with what we give but not in the case of female.

4.2.2 Distribution of Consumer Respondents by type of Household:

Earlier times, joint families were using the traditional food items and they used to eat more vegetables, leafy vegetables, fruits etc. But as these joint families started disappearing due to various reasons, each single family started using instant foods like Chinese food items etc. in order to save energy and time. As far as Rythu Bazaars are concerned, if there is a large family then usually they use more vegetables. In order to save money, especially these families will visit the Rythu Bazaars and buy more vegetables. Hence, present table – 3.2.2 on distribution of Consumer Respondents by type of Household is considered significant.

<table>
<thead>
<tr>
<th>Table – 4.2.2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Distribution of Consumers by its type of Household</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Caste Category</th>
<th>‘A’ Gr RB</th>
<th>‘B’ Gr RB</th>
<th>‘C’ Gr RB</th>
<th>‘D’ Gr RB</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nuclear</td>
<td>26</td>
<td>27</td>
<td>29</td>
<td>36</td>
<td>118</td>
</tr>
<tr>
<td></td>
<td>65.00%</td>
<td>67.50%</td>
<td>72.50%</td>
<td>90.00%</td>
<td>(73.75%)</td>
</tr>
<tr>
<td>Joint</td>
<td>14</td>
<td>13</td>
<td>11</td>
<td>4</td>
<td>42</td>
</tr>
<tr>
<td></td>
<td>35.00%</td>
<td>32.50%</td>
<td>27.50%</td>
<td>10.00%</td>
<td>(26.25%)</td>
</tr>
<tr>
<td>Total</td>
<td>40</td>
<td>40</td>
<td>40</td>
<td>40</td>
<td>160</td>
</tr>
</tbody>
</table>

Source: Primary Data

It is observed from the table that about 73.75 per cent of the consumer respondents were staying alone as Nuclear families whereas only 26.25 per cent of the consumer respondents were staying in Joint families among the Study area.
Consumer respondents staying as Nuclear families were noticed highest in D Grade Rythu Bazaars with 90 per cent followed by C Grade Rythu Bazaars with 72.5 per cent, B Grade Rythu Bazaars with 67.5 per cent whereas it was noticed least in A Grade Rythu Bazaars with only 65 per cent. On the other hand, consumer respondents staying in Joint families were noticed highest in A Grade Rythu Bazaar with 35 per cent followed by B Grade Rythu Bazaar with 32.5 per cent, C Grade Rythu Bazaar with 27.5 per cent whereas it was noticed least in D Grade Rythu Bazaars with only 10 per cent.

It is observed from the table consumer respondents staying in joint families generally would be visiting Rythu Bazaars in leisure times, where rush is less and generally buy large quantity of vegetables.

4.2.3 Distribution of Consumers by their Social Status:

In addition to culture, Social status also influences the behavioural pattern of consumers. Social class is a relatively permanent and ordered division whose members share similar values, interests and behaviours. It is determined by factors like income, occupation, education, wealth and other variables. Caste on the other hand is a group with a developed life of its own and is determined by birth. Buyers are interested in social status because people within a given social status tend to exhibit similar buying behaviour. No other studies have been done on behaviour pattern of consumers on social status related aspects. Hence, the present table – 4.2.3 on Distribution of Consumer Respondents by Social Status is considered significant.

<table>
<thead>
<tr>
<th>Caste Category</th>
<th>‘A’ Gr RB</th>
<th>‘B’ Gr RB</th>
<th>‘C’ Gr RB</th>
<th>‘D’ Gr RB</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>ST</td>
<td>7</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>16</td>
</tr>
<tr>
<td></td>
<td>17.50%</td>
<td>5.00%</td>
<td>7.50%</td>
<td>10.00%</td>
<td>10.00%</td>
</tr>
<tr>
<td>SC</td>
<td>11</td>
<td>9</td>
<td>8</td>
<td>17</td>
<td>45</td>
</tr>
<tr>
<td></td>
<td>27.50%</td>
<td>22.50%</td>
<td>20.00%</td>
<td>42.50%</td>
<td>28.13%</td>
</tr>
<tr>
<td>OBC</td>
<td>13</td>
<td>15</td>
<td>18</td>
<td>10</td>
<td>56</td>
</tr>
<tr>
<td></td>
<td>32.50%</td>
<td>37.50%</td>
<td>45.00%</td>
<td>25.00%</td>
<td>35.00%</td>
</tr>
<tr>
<td>OC</td>
<td>9</td>
<td>14</td>
<td>11</td>
<td>9</td>
<td>43</td>
</tr>
<tr>
<td></td>
<td>22.50%</td>
<td>35.00%</td>
<td>27.50%</td>
<td>22.50%</td>
<td>26.88%</td>
</tr>
<tr>
<td>Total</td>
<td>40</td>
<td>40</td>
<td>40</td>
<td>40</td>
<td>160</td>
</tr>
</tbody>
</table>

Source: Primary Data

Consumer Respondents visiting Rythu Bazars were noticed highest from OBC Category with 35 per cent followed by SC Category with 28.13 per cent, OC Category with 26.88 per cent whereas it was noticed least from ST Category with only 10 per
cent. The reason behind the less participation of ST Category is the accessibility of Rythu Bazaars were very far away from their residential houses, where ST population generally be lives in slum areas.

Consumer Respondents visiting Rythu Bazars from ST Category were noticed highest in A Grade Rythu Bazaars with 17.5 per cent followed by D Grade Rythu Bazaars with 10 per cent, C Grade Rythu Bazaars with 7.5 per cent whereas it was noticed least in B Grade Rythu Bazaar with only 5 per cent. SC Category consumer respondents were noticed highest in D Grade Rythu Bazaars with 42.5 per cent followed by A Grade Rythu Bazaars with 27.5 per cent, B Grade Rythu Bazaars with 22.5 per cent whereas it was noticed lowest in C Grade Rythu Bazaars with only 20 per cent. OBC Category consumer respondents were noticed highest in C Grade Rythu Bazars with 45 per cent followed by B Grade Rythu Bazaars with 37.5 per cent, A Grade Rythu Bazaars with 32.5 per cent whereas it was noticed least in D Grade Rythu Bazaars with only 25 per cent. OC Category consumer respondents were noticed highest in B Grade Rythu Bazaars with 35 per cent followed by C Grade Rythu Bazaar with 27.5 per cent whereas it was noticed least in both A and D Grade Rythu Bazaars with only 22.5 per cent.

4.2.4 Distribution of Consumer Respondents by their Age:

Consumption behaviour and buying pattern are depended on age and their buying habits change over their life time. Tastes in different variety of vegetables are age related factors. Hence, the present table on distribution of consumers by their age is considered significant.

| Table – 4.2.4 Distribution of Consumers by their Age |
|-----------------------------|-----------------------------|-----------------------------|-----------------------------|-----------------------------|-----------------------------|
| Caste Category              | A’ Gr RB                   | B’ Gr RB                   | C’ Gr RB                   | D’ Gr RB                   | Total                       |
| Below 25 Years              | 4                          | 8                          | 9                          | 13                          | 34                          |
|                             | 10.00%                     | 20.00%                     | 22.50%                     | 32.50%                     | 21.25%                      |
| 25 - 40 Years               | 11                         | 9                          | 9                          | 11                          | 40                          |
|                             | 27.50%                     | 22.50%                     | 22.50%                     | 27.50%                     | 25.00%                      |
| 40 - 60 Years               | 18                         | 11                         | 11                         | 8                           | 48                          |
|                             | 45.00%                     | 27.50%                     | 27.50%                     | 20.00%                     | 30.00%                      |
| 60 and Above                | 7                          | 12                         | 11                         | 8                           | 38                          |
|                             | 17.50%                     | 30.00%                     | 27.50%                     | 20.00%                     | 23.75%                      |
| Total                       | 40                         | 40                         | 40                         | 40                          | 160                         |

Source: Primary Data
The age distribution of the consumers is shown in Table – 4.2.4. The major characteristics of the consumers who come to buy the fruits and vegetables at different Grade of Rythu Bazaars were that the majority (30%) of the consumers relatively falls within the category between 40 to 60 years of age followed by 25 per cent of the consumers falls under the category between 25 to 40 years of age, 23.75 per cent of the consumers falls under the category above 60 years whereas it was noticed least under the age category of below 25 years. It is learnt from the table that generally families don’t prefer to send the pupils below the age of 25 years to the Rythu Bazaars. It is also observed from the field study that elders who uses the morning and evening walk generally be attending the Rythu Bazaars and buying vegetables as it is routine in their life. The age group under 25 to 40 years generally be the employees, who generally comes to office usually visit Rythu Bazaars as they were having the small vehicles with them while returning to the office. The age group between 40 and 60 were generally being the house wives.

4.2.5 Distribution of Consumer Respondents by their Education:

Among the different level educated people vegetable purchases and consumption behaviour differs between consumers. As far as Rythu Bazaars are concerned, it is very important that every consumer should have some knowledge on prices of different varieties of vegetables and they can also predict the future rate so that they can change their expenditure pattern and save their incomes. Generally in Rythu Bazaars, prices are being displayed at various places and farmer sellers should not sell their produce beyond the rates provided on the boards. If any case the farmer seller sells above the price then such type of malpractices should be controlled by the Estate Officers, who are responsible for management and maintenance of Rythu Bazaars. It is in this case, consumers should aware on prices and weighments. In this context, the present table on distribution of Consumer Respondents by their Education is considered significant.

Majority of the consumer visiting Rythu Bazaars falls under the category of upper primary school level as their educational qualification with 30 per cent followed by 25 per cent were with Primary Education whereas only 21.88 per cent of the consumer respondents were graduates and above as their educational qualification. As against this, about 23.13 per cent of the consumers fall under the category of illiterates.
Table – 4.2.5
Distribution of Consumer Respondents by their Education

<table>
<thead>
<tr>
<th>Caste Category</th>
<th>‘A’ Gr RB</th>
<th>‘B’ Gr RB</th>
<th>‘C’ Gr RB</th>
<th>‘D’ Gr RB</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Illiterate</td>
<td>8</td>
<td>7</td>
<td>8</td>
<td>14</td>
<td>37</td>
</tr>
<tr>
<td>Primary Education</td>
<td>9</td>
<td>10</td>
<td>9</td>
<td>12</td>
<td>40</td>
</tr>
<tr>
<td>Upper Primary</td>
<td>10</td>
<td>11</td>
<td>15</td>
<td>12</td>
<td>48</td>
</tr>
<tr>
<td>Graduation and above</td>
<td>13</td>
<td>12</td>
<td>8</td>
<td>2</td>
<td>35</td>
</tr>
<tr>
<td>Total</td>
<td>40</td>
<td>40</td>
<td>40</td>
<td>40</td>
<td>160</td>
</tr>
</tbody>
</table>

Source: Primary Education

Consumer respondents were fell under illiterate category was noticed highest in D Grade Rythu Bazaars with 35 per cent followed by 20 per cent in both A and C Grade Rythu Bazaars whereas it was noticed lowest in B Grade Rythy Bazaars with 17.5 per cent.

Consumer respondents having the Primary Level Education were noticed highest in D Grade Rythu Bazaars with 30 per cent followed by 25 per cent in B Grade Rythu Bazaar whereas it was noticed lowest in both A and B Grade Rythu Bazaars with only 22.5 per cent.

Consumer respondents having the Upper Primary Level Education were noticed highest in C Grade Rythu Bazaars with 37.5 per cent followed by 30 per cent in D Grade Rythu Bazaars, 27.5 per cent were in B Grade Rythu Bazaars whereas it was noticed least in A Grade Rythu Bazaars with only 25 per cent.

Consumer respondents having the Graduation and above as their educational Qualification was noticed highest in A Grade Rythu Bazaars with 32.5 per cent followed by B Grade Rythu Bazaars with 30 per cent, C Grade Rythu Bazaars with 20 per cent whereas it was noticed least in D Grade Rythu Bazaars with only 5 per cent.

It is observed from the field study that highly educated and employed people generally visit the A Grade Rythu Bazaars as these were located nodal place of the city premises and metropolitan city areas and these people only will generally complaint against farmer sellers, who are doing malpractices like selling with higher prices and selling with less weight. On the other hand, D Grade and C Grade Rythu Bazaars are located in remote side of the city and located in small towns. Hence, in these Rythu Bazaars, illiterate and less literacy people visit the Rythu Bazaars.

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4.2.6 Distribution of Consumer Respondents by Household Size:

Pattern of buying the vegetables towards consumer behaviour is depended on size of the family. If the size of the family is more then more quantity of vegetables are required and vice versa. If the size of the family is more then consumption of vegetables will also be less for some times due to poverty prevails in that family. Demand for the vegetables is depended on size of the family in the respective Rythu Bazaar area. Hence, the present table on Distribution of Consumer Respondents by Household Size is considered significant.

<table>
<thead>
<tr>
<th>Household Size</th>
<th>‘A’ Gr RB</th>
<th>‘B’ Gr RB</th>
<th>‘C’ Gr RB</th>
<th>‘D’ Gr RB</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
<td>5</td>
<td>6</td>
<td>8</td>
<td>9</td>
<td>28</td>
</tr>
<tr>
<td></td>
<td>12.50%</td>
<td>15.00%</td>
<td>20.00%</td>
<td>22.50%</td>
<td>17.50%</td>
</tr>
<tr>
<td>3 to 4</td>
<td>17</td>
<td>22</td>
<td>20</td>
<td>15</td>
<td>74</td>
</tr>
<tr>
<td></td>
<td>42.50%</td>
<td>55.00%</td>
<td>50.00%</td>
<td>37.50%</td>
<td>46.25%</td>
</tr>
<tr>
<td>5 to 6</td>
<td>16</td>
<td>10</td>
<td>11</td>
<td>14</td>
<td>51</td>
</tr>
<tr>
<td></td>
<td>40.00%</td>
<td>25.00%</td>
<td>27.50%</td>
<td>35.00%</td>
<td>31.88%</td>
</tr>
<tr>
<td>7 and Above</td>
<td>2</td>
<td>2</td>
<td>1</td>
<td>2</td>
<td>7</td>
</tr>
<tr>
<td></td>
<td>5.00%</td>
<td>5.00%</td>
<td>2.50%</td>
<td>5.00%</td>
<td>4.38%</td>
</tr>
<tr>
<td>Total</td>
<td>40</td>
<td>40</td>
<td>40</td>
<td>40</td>
<td>160</td>
</tr>
</tbody>
</table>

Source: Primary Data

About 46.25 per cent of the consumer respondents’ average size of the family was 3 to 4 members followed by 5 to 6 members in about 31.88 per cent of consumer respondent families. On the other hand, about 17.5 per cent of the consumer respondent families having the average family size was two members only and as against this, about 4.38 per cent of the consumer respondent families having the average family size was seven (7) members and above.

The average size having seven and above members in the consumer respondents’ family were highest with 5 per cent in A, B and D Grades of Rythu Bazaars whereas it was noticed least in C Grade Rythu Bazaar with only 2.5 per cent.

The average size having 5 to 6 members in the consumer respondents’ family were highest in A Grade Rythu Bazaar with 40 per cent followed by D Grade Rythu Bazaar with 35 per cent, C Grade Rythu Bazaar with 27.5 per cent whereas it was noticed least in B Grade Rythu Bazaar with only 25 per cent.

The average size having 3 to 4 members in the consumer respondents’ family were highest in B Grade Rythu Bazaar with 55 per cent followed C Grade Rythu
Bazaar with 50 per cent, A Grade Rythu Bazaar with 42.5 per cent whereas it was noticed least in D Grade Rythu Bazaars with only 37.5 per cent.

The average size having two members in the consumer respondents’ family were highest in D Grade Rythu Bazaars with 22.5 per cent followed by C Grade Rythu Bazaar with 20 per cent, B Grade Rythu Bazaar with 15 per cent whereas it was noticed least in A Grade Rythu Bazaars with only 12.5 per cent.

It is observed from the table that A and B Grades of Rythu Bazaars were being visited by the consumers, who were having the higher family size, generally purchase the more vegetables from these Rythu Bazaars only. In other words, high family size of the consumers around particular Rythu Bazaar markets will have the more demand for vegetables. Hence, it is concluded that before establishment of the any Rythu Bazar demand forecasting will also be done around the marketing area.

4.2.7 Distribution of Consumer Respondents by Number of Earners in the Family:

Income status of consumers considerably determining purchasing power of fruits and vegetables and thereby leads to demand for the product. Low income group generally prefers to buy cheaper collections of fruits and vegetables in relatively larger quantity. It is also common practice that families having more earning members will generally engage in the household work and on the other hand, families having one or two earning members in a very small size family will generally be engaged made servants in their house. Hence, total food habits, consumption pattern and purchasing behaviour changes according to its situation. It is in this context, present table on Distribution of Consumer Respondents by Number of Earners in the Family is considered significant.

<table>
<thead>
<tr>
<th>No. of Earners in the family</th>
<th>‘A’ Gr RB</th>
<th>‘B’ Gr RB</th>
<th>‘C’ Gr RB</th>
<th>‘D’ Gr RB</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>One</td>
<td>23</td>
<td>24</td>
<td>16</td>
<td>9</td>
<td>72</td>
</tr>
<tr>
<td></td>
<td>57.50%</td>
<td>60.00%</td>
<td>40.00%</td>
<td>22.50%</td>
<td>45.00%</td>
</tr>
<tr>
<td>Two</td>
<td>16</td>
<td>15</td>
<td>22</td>
<td>23</td>
<td>76</td>
</tr>
<tr>
<td></td>
<td>40.00%</td>
<td>37.50%</td>
<td>55.00%</td>
<td>57.50%</td>
<td>47.50%</td>
</tr>
<tr>
<td>3 &gt;</td>
<td>1</td>
<td>2</td>
<td>2</td>
<td>8</td>
<td>12</td>
</tr>
<tr>
<td></td>
<td>2.50%</td>
<td>2.50%</td>
<td>5.00%</td>
<td>20.00%</td>
<td>7.50%</td>
</tr>
<tr>
<td>Total</td>
<td>40</td>
<td>40</td>
<td>40</td>
<td>40</td>
<td>160</td>
</tr>
</tbody>
</table>

Source: Primary Data
It is observed from the table that at-least two earning members were in about 47.5 per cent of the respondent consumer families followed by single member earning in the entire family were noticed 45 per cent whereas earning members in the family noticed above three members were about 7.5 per cent of respondent consumer households among different Grades of Rythu Bazaars.

Only one earning member in the respondent consumer families were noticed highest in B Grade Rythu Bazaars with 60 per cent families followed by A Grade Rythu Bazaar with 57.5 per cent, C Grade Rythu Bazaar with 40 per cent where as it was found least in D Grade Rythu Bazaar with only 22.5 per cent.

Number of members earning in the respondent consumer families noticed with two members in each family were highest in D Grade Rythu Bazaars with 57.5 per cent followed by C Grade Rythu Bazaars with C Grade Rythu Bazaars with 55 per cent, A Grade Rythu Bazaar with 40 per cent whereas it was noticed least in B Grade Rythu Bazaar with 37.5 per cent.

Three and above members earning in the families of consumer respondents were noticed highest in D Grade Rythu Bazaars with 20 per cent followed by C Grade Rythu Bazaar with 5 per cent whereas it was noticed least in both A and B Grade Rythu Bazaars with only 2.5 per cent.

It is observed from the field study that in the premises of D and C Grade Rythu Bazaars, most of the families rich in nature and also having more earning members in a small size family and hence, the made servants were attending Rythu Bazaar in these areas. It is in this case, once more number of varieties appears to be less and less quality vegetables in these Rythu Bazaars then immediately these maid servants were attending the nearest Market areas. Hence, D Grade Rythu Bazaars were not having speedy improvement / growth.

It is in this context, the present table on Respondent Consumers by their Occupation is considered significant because we can find out whether the existing Rythu Bazaar will be serving the needs of the people of the surrounding areas of respective Rythu Bazaars. In other words, accessibility of Rythu Bazaars for different sections of people can be identified from the present table.
### Table – 4.2.8
Distribution of Respondent Consumers by their Occupation

<table>
<thead>
<tr>
<th>Caste Category</th>
<th>'A' Gr RB</th>
<th>'B' Gr RB</th>
<th>'C' Gr RB</th>
<th>'D' Gr RB</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Employee</td>
<td>16</td>
<td>13</td>
<td>18</td>
<td>22</td>
<td>69</td>
</tr>
<tr>
<td></td>
<td>40.00%</td>
<td>32.50%</td>
<td>45.00%</td>
<td>55.00%</td>
<td>43.13%</td>
</tr>
<tr>
<td>Labour</td>
<td>11</td>
<td>8</td>
<td>6</td>
<td>9</td>
<td>34</td>
</tr>
<tr>
<td></td>
<td>27.50%</td>
<td>20.00%</td>
<td>15.00%</td>
<td>22.50%</td>
<td>21.25%</td>
</tr>
<tr>
<td>Business</td>
<td>8</td>
<td>11</td>
<td>7</td>
<td>3</td>
<td>29</td>
</tr>
<tr>
<td></td>
<td>20.00%</td>
<td>27.50%</td>
<td>17.50%</td>
<td>7.50%</td>
<td>18.13%</td>
</tr>
<tr>
<td>Farmers</td>
<td>7</td>
<td>4</td>
<td>1</td>
<td>0</td>
<td>12</td>
</tr>
<tr>
<td></td>
<td>17.50%</td>
<td>10.00%</td>
<td>2.50%</td>
<td>0.00%</td>
<td>7.50%</td>
</tr>
<tr>
<td>Others</td>
<td>5</td>
<td>8</td>
<td>9</td>
<td>6</td>
<td>28</td>
</tr>
<tr>
<td></td>
<td>12.50%</td>
<td>20.00%</td>
<td>22.50%</td>
<td>15.00%</td>
<td>17.50%</td>
</tr>
<tr>
<td>Total</td>
<td>40</td>
<td>40</td>
<td>40</td>
<td>40</td>
<td>160</td>
</tr>
</tbody>
</table>

Source: Primary Data

Farmer consumers appear to be very high in A Grade Rythu Bazaars with 17.5 per cent followed by B Grade Rythu Bazaars with 10 per cent and C Grade Rythu Bazaars with only 2.5 per cent whereas it was noticed zero in D Grade Rythu Bazaars. Farmers staying in villages nearest to the city / town were frequently visiting the town and cities for various purposes so that while returning home definitely most of the farmers were buying fruits and vegetables from the nearest Market. It is in this regard, It is observed from the field study that A and B Grade Rythu Bazaars are more accessible than other Grades of Rythu Bazaars. Hence, demand for the fruits and vegetables were generally be less in these Rythu Bazaars thereby farmer sellers were not willing to bring their vegetables to these Rythu Bazaars as the vegetables are perished in nature.

On the other hand, Employees appear to be very high in D Grade Rythu Bazaars with 55 per cent followed by C Grade Rythu Bazaars with 45 per cent, A Grade Rythu Bazaars with 40 per cent whereas employees appear to be very low in B Grade Rythu Bazaar covering only 32.5 per cent. The daily activities of the employees and business persons are different from that of other activity holders. Because, they go to office Morning between 8 -10 and return back from the office at after 5 P.M. It is in this case, it is observed from the field study that most of the employees will generally be got the fruits and vegetables where all varieties of fruits and vegetables with super quality are available. Keeping in view of the observations, the main reason for not surviving the C and D Grade Rythu Bazaars are lack of supply, lack of quality and freshness vegetables etc.

Last but not least, Labour appears to be very high in A Grade Rythu Bazaars with 27.5 per cent followed by D Grade Rythu Bazaars with 22.5 per cent, B Grade
Rythu Bazaars with 20 per cent families whereas it appears to be least in C Grade Rythu Bazaars with only 15 per cent. It is observed from the field study that labour are low income group generally be opt the good quality product with low price. Hence, majority of the labour were getting the vegetable produce from A Grade Rythu Bazaars and on the other hand, most of the labour were getting the vegetable produce from the Low Grade Rythu Bazaar due to lack of transport arrangements and high transportation cost.

It is in this context, the present table on Distribution of Consumer Respondents by their Economic Status is considered significant. According to LA Dibsdall and Others (2002), low-income groups have difficulties in access to and affordability of fruit and vegetables.

<table>
<thead>
<tr>
<th>Monthly Income of the family</th>
<th>‘A’ Gr RB</th>
<th>‘B’ Gr RB</th>
<th>‘C’ Gr RB</th>
<th>‘D’ Gr RB</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 K to 2.5 K</td>
<td>18</td>
<td>13</td>
<td>5</td>
<td>1</td>
<td>37</td>
</tr>
<tr>
<td></td>
<td>45.00%</td>
<td>32.50%</td>
<td>12.50%</td>
<td>2.50%</td>
<td>23.13%</td>
</tr>
<tr>
<td>2.5 K to 5.0 K</td>
<td>11</td>
<td>11</td>
<td>4</td>
<td>3</td>
<td>29</td>
</tr>
<tr>
<td></td>
<td>27.50%</td>
<td>27.50%</td>
<td>10.00%</td>
<td>7.50%</td>
<td>18.13%</td>
</tr>
<tr>
<td>5.0 K to 7.5 K</td>
<td>7</td>
<td>12</td>
<td>15</td>
<td>6</td>
<td>40</td>
</tr>
<tr>
<td></td>
<td>17.50%</td>
<td>30.00%</td>
<td>37.50%</td>
<td>15.00%</td>
<td>25.00%</td>
</tr>
<tr>
<td>7.5 K to 10.0 K</td>
<td>3</td>
<td>3</td>
<td>14</td>
<td>12</td>
<td>32</td>
</tr>
<tr>
<td></td>
<td>7.50%</td>
<td>7.50%</td>
<td>35.00%</td>
<td>30.00%</td>
<td>20.00%</td>
</tr>
<tr>
<td>10 K &gt;</td>
<td>1</td>
<td>1</td>
<td>2</td>
<td>18</td>
<td>22</td>
</tr>
<tr>
<td></td>
<td>2.50%</td>
<td>2.50%</td>
<td>5.00%</td>
<td>45.00%</td>
<td>13.75%</td>
</tr>
<tr>
<td>Total</td>
<td>40</td>
<td>40</td>
<td>40</td>
<td>40</td>
<td>160</td>
</tr>
</tbody>
</table>

Source: Primary Data

On the other hand, low income group getting Rs.1,000/- to Rs.2,500/- per month per family for the consumer respondents were noticed highest in A Grade Rythu Bazaar with 45 per cent followed by 32.5 per cent and C Grade Rythu Bazaar with 12.5 per cent of the families whereas the same income group appears to be very low in D Grade Rythu Bazaars.

High income group getting Rs.10,000/- and above per month per family for the consumer respondents were noticed highest in D Grade Rythu Bazaars with 45 per cent followed by C Grade Rythu Bazaars with only 5 per cent whereas the same

income group was appeared in A and B Grade Rythu Bazaars. It is observed from field study that most of the D Grade Rythu Bazaars had been established in the class and decent remote areas and the people living in these areas was higher income group only and hence this group could get the vegetables from the other markets, where fresh and all varieties of vegetables are available.

4.2.10 Persons Bringing the Vegetables from the Rythu Bazaar:

Consumption of vegetables is some times depended on the persons visiting Rythu Bazaars to bring the vegetables for the household consumption. Generally, women have more bargaining power in terms of price and weighment of the vegetable produce then men. House wives come to the market generally between 10 AM and 12 Noon and 2 PM and 5 PM in the evening time, elders come to the Rythu Bazaars generally at morning / evening walking time, male heads generally visit the Rythu Bazaars at before and after office timings. In this context, present table on Persons Visiting Rythu Bazaars is considered significant.

<table>
<thead>
<tr>
<th>Caste Category</th>
<th>A’ Gr RB</th>
<th>B’ Gr RB</th>
<th>C’ Gr RB</th>
<th>D’ Gr RB</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Elders</td>
<td>7</td>
<td>9</td>
<td>11</td>
<td>8</td>
<td>35</td>
</tr>
<tr>
<td></td>
<td>17.50%</td>
<td>22.50%</td>
<td>27.50%</td>
<td>20.00%</td>
<td>21.88%</td>
</tr>
<tr>
<td>Children</td>
<td>1</td>
<td>1</td>
<td>2</td>
<td>4</td>
<td>8</td>
</tr>
<tr>
<td></td>
<td>2.50%</td>
<td>2.50%</td>
<td>5.00%</td>
<td>10.00%</td>
<td>5.00%</td>
</tr>
<tr>
<td>Housewives</td>
<td>15</td>
<td>13</td>
<td>14</td>
<td>12</td>
<td>54</td>
</tr>
<tr>
<td></td>
<td>37.50%</td>
<td>32.50%</td>
<td>35.00%</td>
<td>30.00%</td>
<td>33.75%</td>
</tr>
<tr>
<td>Workers</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>13</td>
<td>14</td>
</tr>
<tr>
<td></td>
<td>2.50%</td>
<td>0.00%</td>
<td>0.00%</td>
<td>32.50%</td>
<td>8.75%</td>
</tr>
<tr>
<td>Male Heads</td>
<td>16</td>
<td>17</td>
<td>13</td>
<td>3</td>
<td>49</td>
</tr>
<tr>
<td></td>
<td>40.00%</td>
<td>42.50%</td>
<td>32.50%</td>
<td>7.50%</td>
<td>30.63%</td>
</tr>
<tr>
<td>Total</td>
<td>40</td>
<td>40</td>
<td>40</td>
<td>40</td>
<td>160</td>
</tr>
</tbody>
</table>

Source: Primary Data

Majority in all grades of Rythu Bazaars, vegetables being brought from the Rythu Bazaars was by house wives with 33.75 per cent followed by male heads with 30.63 per cent, Elders in the family with 21.88 per cent whereas it was least by Children (5 per cent) and workers in the family (8.75 per cent).

Vegetables being brought by Elders in the family were noticed highest in C Grade Rythu Bazaars with 27.5 per cent, where the Rythu Bazaars were established in the mass people staying area, whereas it was least in A Grade Rythu Bazaars. Vegetables being brought by House wives were noticed highest in A Grade Rythu
Bazaars with 37.5 per cent, where these Rythu Bazaars were accessed to housewives, whereas it was noticed least in D Grade Rythu Bazaars with only 30 per cent. Vegetables being brought by Workers were noticed highest in D Grade Rythu Bazaars, where these Rythu Bazaars were established in the remote and rich men living area.

4.2.11 Regularity of Visiting Rythu Bazaars:

Marketing of vegetables is depended on regularity of visiting the Rythu Bazaars by the consumers. Most of the people are willing to get the vegetables twice or thrice a week because these people prefer fresh vegetables only. On the other hand, very few people are willing to get the vegetables once or twice in a week and preserve these vegetables in their refrigerators then consumer daily. Very few people are willing to get the vegetables once in a week and these people don’t prefer the particular market to get the vegetables to their house. In this context, regularity of visiting Rythu Bazaars will affect the marketing efficiency of Rythu Bazaars and hence the present table on Distribution of Consumer Respondents by their regularity of visiting Rythu Bazaars is considered significant.

<table>
<thead>
<tr>
<th>Association</th>
<th>A’ Gr RB</th>
<th>B’ Gr RB</th>
<th>C’ Gr RB</th>
<th>D’ Gr RB</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Regularly</td>
<td>37</td>
<td>24</td>
<td>14</td>
<td>9</td>
<td>84</td>
</tr>
<tr>
<td></td>
<td>92.50%</td>
<td>60.00%</td>
<td>35.00%</td>
<td>22.50%</td>
<td>52.50%</td>
</tr>
<tr>
<td>Occasionally</td>
<td>2</td>
<td>11</td>
<td>17</td>
<td>6</td>
<td>36</td>
</tr>
<tr>
<td></td>
<td>5.00%</td>
<td>27.50%</td>
<td>42.50%</td>
<td>15.00%</td>
<td>22.50%</td>
</tr>
<tr>
<td>Rarely</td>
<td>1</td>
<td>5</td>
<td>9</td>
<td>25</td>
<td>40</td>
</tr>
<tr>
<td></td>
<td>2.50%</td>
<td>12.50%</td>
<td>22.50%</td>
<td>62.50%</td>
<td>25.00%</td>
</tr>
<tr>
<td>Total</td>
<td>40</td>
<td>40</td>
<td>40</td>
<td>40</td>
<td>160</td>
</tr>
</tbody>
</table>

Source: Primary Data

Majority of consumer respondents were willing to visit the Rythu Bazaars regularly with 52.5 per cent followed by rarely with 25 per cent whereas only 22.5 per cent of the consumer respondents were willing to visit the Rythu Bazaars occasionally.

Regular visits were being done by majority of consumer respondents noticed highest in A Grade Rythu Bazaars with 92.5 per cent followed by B Grade Rythu Bazaars with 60 per cent consumers whereas it was noticed lowest by 22.5 per cent of the consumers from D Grade Rythu Bazaars.
Occasional visits were being done by majority of consumer respondents noticed highest in C Grade Rythu bazaars followed by B Grade Rythu Bazaars whereas it was noticed least by A Grade Rythu Bazaar consumer respondents.

Rare visits were being made by majority of consumer respondents in D Grade Rythu Bazaars with 62.5 per cent whereas it was noticed least in A Grade Rythu Bazaars with only 2.5 per cent.

**Conclusion:**

The social factors like illiteracy ratio, Age, size of the family and joint family, Agriculture dependent ratio, awareness on Marketing Management were influencing the marketing efficiency of Rythu Bazaars irrespective of Grades. On the other hand, the economic factors like size of land holding, irrigation facilities, experience of farmers in the selling activity, quantity of vegetable produce sold at Rythu Bazaars, No. of hours staying at Rythu Bazaars to sell the produce by the farmer sellers, No. of varieties grown, transportation facilities arranged by the market / Government authorities, average transportation cost, staying expenses, bribe, loading and unloading charges, market information on prices and demand at various places, regularity of visits, time of the demand, location of Rythu Bazaars were influencing the marketing efficiency of Rythu Bazaars among different Grades of Rythu Bazaars.
The inflation and price rise have long been the causes of worry among the Indian consumers. However, the government seems to have gone in deep drowse about this issue. In such a scenario the very thought that an attempt of setting up Rythu Bazaars in the state could help control prices comes like a cool breeze in sweltering summer. Retail sale is being encouraged in Andhra Pradesh by launching counters and shops at Rythu Bazaars. Keeping in view of this, an attempt has made to identify the factors that influence the marketing efficiency of Rythu Bazaars in the previous chapter. State Government had a great thought behind this establishment of Rythu Bazaars that it is an innovative marketing policy that direct interface between both farmers and consumers to getting benefitted by getting quality and fresh vegetable with cheaper and affordable rate for the consumers on the one hand and best and remunerative price by selling their vegetable produce to the consumer directly by avoiding middlemen on the other. Still, Rythu Bazaars has its own limitations. Still both farmers and consumers could not able to over come from the issues like fluctuations in prices, variations in production of vegetables on the one hand and on the other, lack of infrastructure facilities, location of Rythu Bazaars, lack of proper support from both the Government and Officials of Rythu Bazaars has created so many problems for the farmer sellers after establishment of Rythu Bazaars in the state of Andhra Pradesh. In this context, an attempt has been made to analyse the perceptions of both farmer sellers and consumers on functioning and problems prevailed in the Rythu Bazaars and to chalk out what are the ways and means to improve the marketing efficiency of Rythu Bazaars.

5.1.1 Farmers Perceptions on Present System of Price Fixation:

According to the norms of Rythu Bazaars the prices of vegetables was fixed based on the rates of Wholesale markets. It should be 20 to 25 per cent above the Wholesale Price. But in practice, it is very difficult to understand the prices of the wholesale markets. Hence, the present table on farmers’ perceptions on present system of price fixation is considered significant.

About 39.38 per cent of the farmer respondents were moderately satisfied on the procedure followed for the price fixation and present rates at the Rythu Bazaars for the vegetable produce followed by 30.63 per cent of the farmers sellers were only satisfied with the present system of price fixation and 20.63 per cent of the farmer sellers were very satisfied with present system followed for the price fixation whereas
about 9.38 per cent of the farmer sellers were not at all satisfied with the present system of price fixation method.

<table>
<thead>
<tr>
<th>Perceptions of Farmers</th>
<th>‘A’ Gr RB</th>
<th>‘B’ Gr RB</th>
<th>‘C’ Gr RB</th>
<th>‘D’ Gr RB</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Very Satisfied</td>
<td>6</td>
<td>7</td>
<td>9</td>
<td>11</td>
<td>33</td>
</tr>
<tr>
<td></td>
<td>15.00%</td>
<td>17.50%</td>
<td>22.50%</td>
<td>27.50%</td>
<td>20.63%</td>
</tr>
<tr>
<td>Moderately Satisfied</td>
<td>14</td>
<td>16</td>
<td>15</td>
<td>18</td>
<td>63</td>
</tr>
<tr>
<td></td>
<td>35.00%</td>
<td>40.00%</td>
<td>37.50%</td>
<td>45.00%</td>
<td>39.38%</td>
</tr>
<tr>
<td>Satisfied</td>
<td>15</td>
<td>12</td>
<td>13</td>
<td>9</td>
<td>49</td>
</tr>
<tr>
<td></td>
<td>37.50%</td>
<td>30.00%</td>
<td>32.50%</td>
<td>22.50%</td>
<td>30.63%</td>
</tr>
<tr>
<td>Not at all Satisfied</td>
<td>5</td>
<td>5</td>
<td>3</td>
<td>2</td>
<td>15</td>
</tr>
<tr>
<td></td>
<td>12.50%</td>
<td>12.50%</td>
<td>7.50%</td>
<td>5.00%</td>
<td>9.38%</td>
</tr>
<tr>
<td>Total</td>
<td>40</td>
<td>40</td>
<td>40</td>
<td>40</td>
<td>160</td>
</tr>
</tbody>
</table>

Source: Primary Data

Satisfied with present system of price fixation method farmer sellers were noticed highest in A Grade Rythu bazaars with 37.5 per cent of the farmer sellers followed by 32.5 per cent of the farmer sellers in C Grade Rythu Bazaars, B Grade Rythu Bazaars with 30 per cent farmer sellers whereas it was noticed least in D Grade Rythu Bazaars with only 22.5 per cent of the farmer sellers.

Moderately satisfied with the present system of price fixation method farmer sellers were noticed highest again in D Grade Rythu Bazaars with 45 per cent of the farmer sellers followed by 40 per cent of the farmer sellers in B Grade Rythu Bazaars, 37.5 per cent of the farmer sellers in C Grade Rythu Bazaars whereas it was noticed least in A Grade Rythu bazaars with only 35 per cent of the farmer sellers.

Very Satisfied with the present system of price fixation method were noticed highest in D Grade Rythu Bazaars with 27.5 per cent of the farmer sellers followed by C Grade Rythu Bazaars with 22.5 per cent, B Grade Rythu Bazaars with 17.5 per cent of the farmer sellers whereas it was noticed least in A Grade Rythu Bazaars with 15 per cent of the farmer sellers.

Not at all satisfied with the present system of price fixation method were noticed highest in both A and B Grade Rythu Bazaars with 12.5 per cent of the farmer sellers followed by C Grade Rythu Bazaars with 7.5 per cent of the farmer sellers whereas it was only 5 per cent farmers in D Grade Rythu Bazaars.

It is observed from the field study that very few respondents were having the knowledge on minute to minute changes and fluctuations in the prices of vegetables especially in wholesale markets. Some instances, whole sellers were holding the
entire gamut of markets and they were influencing the whole markets by changing the prices and supply levels in the market. It is in this context, the present system of noting the prices from wholesale markets are itself very wrong as per opinion of the farmers on the one hand and on the other, still retailers were enjoying the highest margin of Rs.10 to 15 from the Rythu Bazaars per KG of vegetable price. In other words, for instance per KG tomatoes price is Rs.10 in the whole sale market then prices of Rythu Bazaars is about Rs.11/- to Rs.12/- per Kg whereas in the retail markets it will be only between Rs.10 to Rs.12/- only. In that case most of the consumers were not interested to buy the vegetables from the Rythu Bazaars. On other hand, when per Kg tomatoes price is Rs.50/- in wholesale markets then prices of Rythu Bazaars are only Rs.60/- whereas retailers were enjoying the Rs.80/- to Rs.90/- per kg simultaneously. It is in this case, most of the farmer respondent were requesting the Rythu Bazaar Estate Officer to increase the price of the vegetable produce and it is observed from the field study that it is only wish of Estate Officer to change the price of the vegetable. One more Example from the Gudur Municipal Corporation Rythu Bazaar case is that Estate Officer was not following the Whole Sale market of Nellore district he was following only the local market price of Gudur so the difference of price from Gudur Rythu Bazaar price to Gudur Market was higher by 20 to 25 per cent. Hence, Rythu Bazaar farmer sellers were getting losses by selling their produce in Rythu Bazaars and sometimes they were not able to sell their whole produce in the Rythu Bazaar and hence the produce was being thrown out on the road several times according to the version of the farmer sellers. It is concluded from the table that the price of the vegetable produce should be taken from the whole sale markets, where the vegetables were being sold at early morning hours but in practice, the prices were being collecting at 9.00 AM to 10.00 AM. Hence, majority of the farmer respondents were not satisfied with present system of price fixation method.

5.1.2 Farmers Perceptions on Measures for Price Stabilisation:

Vegetables are perished in nature and hence can not be preserved it for more than two days and for some cases like leafy vegetables it is only for one day. Supply determines the prices of the vegetables, if the season remains the constant, in most of the cases all over the world because demand for the product is almost same all over the world. Hence, most of the farmer sellers were suggesting that we could estimate the supply of vegetable produce Government only can estimate the supply of
vegetable produce. Rythu Bazaars being a price stabilized centres; it can also initiate the price stabilisation measures by adjusting the supply of vegetables at macro level. It is in this context, an attempt has been made to know the farmer perceptions on price stabilisation measures by adjusting the demand and supply of the product.

Table – 5.1.2
Farmers Perceptions on Demand – Supply Adjustment Measures for Price Stabilisation

<table>
<thead>
<tr>
<th>Farmers Perceptions</th>
<th>‘A’ Gr RB</th>
<th>‘B’ Gr RB</th>
<th>‘C’ Gr RB</th>
<th>‘D’ Gr RB</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Should Estimate the Demand and Encourage the Supply at Pre-Production Stage</td>
<td>8</td>
<td>11</td>
<td>2</td>
<td>9</td>
<td>30</td>
</tr>
<tr>
<td></td>
<td>20%</td>
<td>27.5%</td>
<td>5%</td>
<td>22.5%</td>
<td>18.74%</td>
</tr>
<tr>
<td>Encourage the Farmers from Outside RBs when Demand is high and vice versa</td>
<td>14</td>
<td>26</td>
<td>35</td>
<td>26</td>
<td>101</td>
</tr>
<tr>
<td></td>
<td>35%</td>
<td>65%</td>
<td>87.5%</td>
<td>65%</td>
<td>63.13%</td>
</tr>
<tr>
<td>Both of the above</td>
<td>18</td>
<td>3</td>
<td>3</td>
<td>5</td>
<td>29</td>
</tr>
<tr>
<td></td>
<td>45%</td>
<td>7.5%</td>
<td>7.5%</td>
<td>12.5%</td>
<td>18.13%</td>
</tr>
<tr>
<td>Total</td>
<td>40</td>
<td>40</td>
<td>40</td>
<td>40</td>
<td>160</td>
</tr>
</tbody>
</table>

Source: Primary Data

About 63.13 per cent of the farmer respondents expressed their views that farmers will be gained when the supply of the vegetable produce in the particular Rythu Bazaar is high that produce has to shift the Rythu Bazaar authorities to other Rythu Bazaar areas at cost of Government Expenditure and at same time when the price of any product or supply of the product is less then Rythu bazaar authorities should initiate to bring the supply from other Rythu Bazaars and 18.74 per cent of the farmer respondents expressed their views about price stabilisation measures by adjusting the demand supply conditions that it is responsibility of the Government to educate the farmers at pre-production stage on at which season the prices of the produce will be high or supply of the product will be low at what area / amount the particular produce should be grown, how many farmers should grow the particular vegetable product etc. whereas about 18.13 per cent of the farmer respondents were expressing their views that both initiations should be taken by the Government through Rythu Bazaars officials at macro level only.

It is concluded from the table that both measures at pre-production stage – Government or Rythu Bazaar official should educate the farmers at pre-production stage itself by estimating the demand estimation, facilitating some farmers to one product and some other farmers to another product and marketing stage – by shifting the excess supply to other Rythu Bazaar areas when supply is very high and mobilising the vegetable produce from other Rythu Bazaars when demand / price of
the product is very high at particular Rythu Bazaar will be helpful for stabilisation of
the prices in the state of Andhra Pradesh.

5.1.3 Farmer Seller perceptions to increase / encourage No. of farmer sellers in
the Rythu Bazaars:
According to the study of J.K Bajaj (1994)\(^\text{45}\), the consumption of vegetables in
India is 56 Kgs per capita per annum and average consumption of fruits in India is
only a quarter of the average in Europe and Australia. On the other hand most of the
Indian population is in undernourished. According to our study, most of the C and
D Grade Rythu Bazaars were facing lack of supply issue. On other hand, the prices of
the vegetable process in recent days show the demand of the vegetable produce and
hence farmers should be encouraged at a larger extent. It is in this context, an attempt
has been made to get the farmer perceptions to increase / encourage number of farmer
sellers in the Rythu Bazaar area is considered significant.

<table>
<thead>
<tr>
<th>Farmers Suggestions</th>
<th>A’ Gr RB</th>
<th>B’ Gr RB</th>
<th>C’ Gr RB</th>
<th>D’ Gr RB</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Govt should Provide Subsidized Inputs</td>
<td>12</td>
<td>11</td>
<td>9</td>
<td>7</td>
<td>39</td>
</tr>
<tr>
<td></td>
<td>30.00%</td>
<td>27.50%</td>
<td>22.50%</td>
<td>17.50%</td>
<td>24.38%</td>
</tr>
<tr>
<td>To Link up the Produce with other institutions</td>
<td>5</td>
<td>8</td>
<td>18</td>
<td>23</td>
<td>54</td>
</tr>
<tr>
<td></td>
<td>12.50%</td>
<td>20.00%</td>
<td>45.00%</td>
<td>57.50%</td>
<td>33.75%</td>
</tr>
<tr>
<td>To Provide sprinklers / Minor Irrigation facilities to encourage off-season vegetables</td>
<td>11</td>
<td>12</td>
<td>6</td>
<td>5</td>
<td>34</td>
</tr>
<tr>
<td></td>
<td>27.50%</td>
<td>30.00%</td>
<td>15.00%</td>
<td>12.50%</td>
<td>21.25%</td>
</tr>
<tr>
<td>All of the above</td>
<td>12</td>
<td>9</td>
<td>7</td>
<td>5</td>
<td>33</td>
</tr>
<tr>
<td></td>
<td>30.00%</td>
<td>22.50%</td>
<td>17.50%</td>
<td>12.50%</td>
<td>20.63%</td>
</tr>
<tr>
<td>Total</td>
<td>40</td>
<td>40</td>
<td>40</td>
<td>40</td>
<td>160</td>
</tr>
</tbody>
</table>

Source: Primary Data
Majority of about 33.75 per cent of the farmer respondents expressed that
farmers can be encouraged through link up the vegetable produce with other
institutions like Hotels, Hostels, Functions etc. followed by 24.38 per cent of the
farmer sellers expressed that production may be encouraged through provision of
subsidized inputs like quality / certified vegetable seed, sprayer, fertilizers etc., about
21.25 per cent of the farmer sellers expressed that farmers may be encouraged through
the provision of subsidized sprinklers / minor irrigation facilities to encourage the
farmers for growing off-season vegetables whereas about 20.63 per cent of the farmer
sellers expressed that all the measures provision of subsidized inputs, link up the

\(^{45}\) J.K.Bajaj (1994) – Food Consumption in India and the World conducted and published by Centre for
Policy Studies, Madras.
produce with other institutions like hotels, hostels etc., provision of sprinklers and minor irrigation facilities to encourage the farmers towards growing the off-season vegetables may boost the farmer sellers for further concentration on growing the vegetables and bring the vegetable produce to the Rythu Bazaars in that area.

The perception of the farmer sellers of provision of subsidized inputs like certified seed, fertilizers etc can be encouraged the farmer sellers to the Rythu Bazaar was expressed by majority of farmer sellers from A Grade Rythu Bazaars with 30 per cent of the farmer sellers followed by 27.5 per cent of the farmer sellers from B Grade Rythu Bazaars, 22.5 per cent of the farmer sellers from C Grade Rythu Bazaars whereas it was expressed by least of the farmer sellers (about 17.5 per cent) from D Grade Rythu Bazaars only.

The perception of farmer sellers of to link up the produce with other institutions like hotels, hostels, functions, which in turn can be encouraged more number of farmer sellers to come and sale their produce at Rythu Bazaars, was expressed by majority of farmer sellers from D Grade Rythu Bazaars with 57.5 per cent followed by 45 per cent of the farmer sellers from C Grade Rythu Bazaars, 20 per cent of the farmer sellers from B Grade Rythu Bazaars whereas it was expressed by least farmer sellers (about 12.5 per cent) from A Grade Rythu Bazaars.

Number of farmer sellers can be encouraged by providing sprinklers / minor irrigation facilities to encourage off-season vegetables expressed by majority of farmer respondents from B Grade Rythu Bazaars with 30 per cent followed by A Grade Rythu Bazaars with 27.5 per cent, C Grade Rythu Bazaars with 15 per cent whereas it was noticed least by 12.5 per cent of farmer respondents from D Grade Rythu Bazaars.

By giving Government support with providing subsidized inputs, to link up the produce with other institutions like hotels, hostels, functions etc. and by providing sprinklers / minor irrigation facilities to encourage off-season vegetables was expressed by the majority (30 per cent) of farmer respondents from A Grade Rythu Bazaars followed by B Grade Rythu Bazaars with 22.5 per cent of the farmer respondents, C Grade Rythu Bazaars with 17.5 per cent respondents whereas it was expressed by least of the farmer respondents of about 12.5 per cent from D Grade Rythu Bazaars.

It is concluded from the table that provision subsidized inputs, link up the produce with other institutions like hotels, hostels, functions etc. provision of
sprinklers and minor irrigations facilities can boost up the farmers to concentrate more on vegetable produce and sell the vegetables from the Rythu Bazaars.

5.1.4 Perceptions of Farmers towards maintenance of Excess Stock:

As rightly mentioned in the previous chapter that majority of the produce was going to wholesale markets and about one tenth of the produce was being taken to Rythu Bazaars to sell and get remunerative price on that day. This is the present scenario of the Rythu Bazaar farmer especially who are selling in A and B Grade Rythu Bazaars. Majority of farmer sellers of Rythu Bazaars were getting the vegetable produce upto 15 to 20 quintals to wholesale market and in that one to two quintal was being taken to Rythu bazaar and selling whole produce by sitting entire day in the Rythu Bazaar though they are a small farmer. It is in this context, present table on perceptions or suggestions of farmer sellers regarding maintenance of excess stock is considered significant.

<table>
<thead>
<tr>
<th>Perceptions of Farmers</th>
<th>‘A’ Gr RB</th>
<th>‘B’ Gr RB</th>
<th>‘C’ Gr RB</th>
<th>‘D’ Gr RB</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Can be Established the Processing Centre at RBs</td>
<td>10</td>
<td>4</td>
<td>3</td>
<td>1</td>
<td>18</td>
</tr>
<tr>
<td></td>
<td>25.00%</td>
<td>10.00%</td>
<td>7.50%</td>
<td>2.50%</td>
<td>11.25%</td>
</tr>
<tr>
<td>Can be Linked with Processing Companies / Hotels / Hostels / Functions etc.</td>
<td>22</td>
<td>19</td>
<td>16</td>
<td>23</td>
<td>80</td>
</tr>
<tr>
<td></td>
<td>55.00%</td>
<td>47.50%</td>
<td>40.00%</td>
<td>57.50%</td>
<td>50.00%</td>
</tr>
<tr>
<td>Can be transported to other RBs, where prices are very high</td>
<td>8</td>
<td>17</td>
<td>21</td>
<td>16</td>
<td>62</td>
</tr>
<tr>
<td></td>
<td>20.00%</td>
<td>42.50%</td>
<td>52.50%</td>
<td>40.00%</td>
<td>38.75%</td>
</tr>
<tr>
<td>Total</td>
<td>40</td>
<td>40</td>
<td>40</td>
<td>40</td>
<td>160</td>
</tr>
</tbody>
</table>

Source: Primary Data

Majority of about 50 per cent of the farmer sellers expressed that excess stock can be maintained by arranging link up with processing units, hotels, hostels, functions like marriages etc, which will be helpful for farmers to get remunerative prices followed by 38.75 per cent of the respondent farmers expressed that excess stock can be transported to other Rythu Bazaars, where prices are very high whereas only 11.25 per cent of the farmer seller expressed that excess stock can be maintained by establishing the small processing centres at Rythu Bazaar itself with a cooperative model.

Majority of D Grade Rythu Bazaar farmers expressed their views that excess stock can be linked with processing units, hotels, hostels, functions like marriages etc
whereas the least percentage of respondents from same Rythu Bazaars concentrated on processing units due to less supply.

Majority of A Grade Rythu Bazaar farmers expressed that excess stock can be maintained by arranging linkup with processing units, hotels, hostels, functions followed by 25 per cent of the respondent farmers expressed that excess stock can be maintained by establishing the small processing units at Rythu Bazaars.

5.1.5 Farmer sellers’ perception on Usefulness of Estate Officer Services:

Apart from the farmers, Rythu Bazaars are still constrained by a number of challenges, though it was established 27 years back. Once the Rythu Bazaars get the self sufficiency rather than controlling by the Government then automatically farmers will get more facilities. Performance of the Rythu Bazaars is depended on its managing capacity of Estate Officer also. In the present day world, majority of the marketing managers are promoting the sales to the peak level thereby many firms are getting self sufficiency in the private sector. But in Rythu Bazaars Estate Officers were restricted to maintenance of Rythu Bazaars only. Very limited Estate Officers were taking initiations for the sake of farmer sellers for the promotion of Rythu Bazaars. In this context, the present table on farmers’ perception on usefulness of Estate of Officer services is considered significant.

<table>
<thead>
<tr>
<th>Perceptions of Farmers</th>
<th>A’ Gr RB</th>
<th>B’ Gr RB</th>
<th>C’ Gr RB</th>
<th>D’ Gr RB</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Very Useful</td>
<td>9</td>
<td>2</td>
<td>1</td>
<td>3</td>
<td>15</td>
</tr>
<tr>
<td></td>
<td>22.50%</td>
<td>5.00%</td>
<td>2.50%</td>
<td>7.50%</td>
<td>9.38%</td>
</tr>
<tr>
<td>Moderately Useful</td>
<td>11</td>
<td>16</td>
<td>15</td>
<td>15</td>
<td>57</td>
</tr>
<tr>
<td></td>
<td>27.50%</td>
<td>40.00%</td>
<td>37.50%</td>
<td>37.50%</td>
<td>35.63%</td>
</tr>
<tr>
<td>Somewhat Useful</td>
<td>15</td>
<td>11</td>
<td>9</td>
<td>8</td>
<td>43</td>
</tr>
<tr>
<td></td>
<td>37.50%</td>
<td>27.50%</td>
<td>22.50%</td>
<td>20.00%</td>
<td>26.88%</td>
</tr>
<tr>
<td>Not at all Useful</td>
<td>5</td>
<td>11</td>
<td>15</td>
<td>14</td>
<td>45</td>
</tr>
<tr>
<td></td>
<td>12.50%</td>
<td>27.50%</td>
<td>37.50%</td>
<td>35.00%</td>
<td>28.13%</td>
</tr>
<tr>
<td>Total</td>
<td>40</td>
<td>40</td>
<td>40</td>
<td>40</td>
<td>160</td>
</tr>
</tbody>
</table>

Source: Primary Data

Estate Officer’s services were moderately useful opined by majority of the farmer respondents of about 35.63 per cent followed by 28.13 per cent of the farmer respondents were stating that the services of Estate Officer were not at all useful for either Rythu Bazaars or Farmer sellers of the Rythu Bazaars, about 26.88 per cent of
the farmer respondents’ opinion that the services of Estate Officer was somewhat useful for both farmers and consumers whereas only 9.38 per cent of the farmer respondents were stating that the services of Estate Officer was very useful for both Farmers and Consumers especially in the case of dispute between the farmer and seller and consumers.

Majority (about 37.5 per cent) of the A Grade Rythu Bazaar Farmer sellers were stating that the services of the Estate Officer was somewhat useful followed by 27.5 per cent of the farmer sellers were stating that the services of Estate Officer was moderately useful whereas only 12.5 per cent of the farmer sellers were stating that there is no useful of the services of Estate Officer. Especially in A Grade Rythu Bazaars Estate Officers were resolving the disputes between the farmers and consumers, resolving the problems of theft, problem of allocation of the stall etc.

Majority of (about 40 per cent) farmer sellers from the B Grade Rythu Bazaars were stating that the services of Estate Officer was moderately useful followed by 27.5 per cent of the farmer sellers were stating that the services of Estate Officer was some what useful and the same percentage of farmer sellers were complaining that there is no usefulness of the Estate Officer services to the Rythu Bazaars whereas only 5 per cent of the farmer sellers were stating that the services of Estate Officer was very useful for both farmers and consumers in the Rythu Bazaars.

Majority of (37.5 per cent of each) of the farmer sellers from C Grade Rythu Bazaars were stating that there is no usefulness of the Estate Officer services in the Rythu Bazaars and the percentage of farmer sellers opined that the services of Estate Officer was moderately useful for the Rythu Bazaars whereas only 2.5 per cent of the farmer sellers were stating that the services of Estate Officer was very useful for both Farmers and Consumers.

Majority of farmer respondents (about 37.5 per cent) from D Grade Rythu Bazaars were stating that the services of Estate Officer was moderately useful followed by 35 per cent of the farmer sellers opined that the services of Estate Officer was not at all useful for both farmer sellers and consumers in the Rythu Bazaars because the role of Estate Officer was only limited in D Grade Rythu Bazaars.

Hence, it is concluded from the table that the role of Estate Officer services should be innovative / initiative in the field of marketing rather than maintenance of the Rythu Bazaars.
5.1.6 Farmer Perceptions / Suggestions on Role of Estate Officer:

At present, the services of the Estate Officer was only looking after the maintenance works like resolving the disputes between farmer sellers and consumers, resolving the problems of sellers in the allocation of space etc. Though, they were not able to resolve the problems of farmer sellers because high influence of local representatives in the allotment of stalls especially in the C and B Grade Rythu Bazaars. If the services of Estate Officers can be utilised for creating more demand for the vegetable produce then automatically Rythu bazaars will be run on the sustainable basis. In this context, the present table on farmer perceptions / suggestions on role of Estate Officer is considered significant.

**Table – 5.1.6**
Farmers Perceptions / Suggestions on Role of Estate Officer

<table>
<thead>
<tr>
<th>Perceptions of Farmers</th>
<th>A' Gr RB</th>
<th>B' Gr RB</th>
<th>C' Gr RB</th>
<th>D' Gr RB</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Should Act like a Marketing Manager</td>
<td>14</td>
<td>11</td>
<td>10</td>
<td>15</td>
<td>15</td>
</tr>
<tr>
<td>Development of Rythu Bazaars</td>
<td>3</td>
<td>6</td>
<td>9</td>
<td>13</td>
<td>57</td>
</tr>
<tr>
<td>Maintenance of Rythu bazaars</td>
<td>2</td>
<td>4</td>
<td>8</td>
<td>5</td>
<td>43</td>
</tr>
<tr>
<td>All of the above</td>
<td>21</td>
<td>19</td>
<td>13</td>
<td>7</td>
<td>45</td>
</tr>
<tr>
<td>Total</td>
<td>40</td>
<td>40</td>
<td>40</td>
<td>40</td>
<td>160</td>
</tr>
</tbody>
</table>

**Source: Primary Data**

Majority of the farmer sellers opined that Estate Officers’ services should be limited for only development activities like utilization of Rythu Bazaar fund for development activities like construction of additional stalls, rest houses and other infrastructure facilities etc. About 28.13 per cent of the farmer sellers were suggesting that the Estate Officer should be role model for all other activists he should work for farmer sellers towards promoting the sales like a marketing manager, he should involve the development activities like providing the infrastructure facilities for the development of Rythu Bazaars and he should maintain the Rythu Bazaars free from problems of both farmers and consumers. For example, he should initiate to get the petty coins / change for solving the problems of both farmers and consumers.

Majority of about 52.5 per cent of the farmer sellers from A Grade Rythu Bazaars were suggesting that the role of estate officer should be act like a marketing manager to promote the sales of vegetable produce, should utilize the Rythu Bazaar
fund and get the fund as donations from donors to utilize the same towards development of the Rythu Bazaars and also he should maintain the Rythu Bazaars free from problems etc whereas only limited percentage of (about 5 per cent) farmer sellers opined that the role should be restricted to only maintenance works at Rythu Bazaars.

Majority of farmer sellers from all Grades Rythu Bazaars opined that Estate Officers’ services should look after all of the above woks to smooth running of the Rythu bazaars and for development of the Rythu Bazaars whereas limited percentage of farmer sellers opined that the services should be restricted to only maintenance of the Rythu Bazaars.

It is concluded from the table that Estate Officer role is key to success of the Rythu Bazaars, if he is charismatic. Government should give full powers to maintain the Rythu Bazaars on his own with provision of sufficient staff like Horticulture Officer, field assistants etc. Government should also announce every year some awards and rewards for who initiate the works for the development of Rythu Bazaars especially to promote the sales of vegetable produce through Rythu Bazaars.

### 5.1.7 Farmers Perceptions towards usefulness of Horticulture Officer Services:

Present day world, Horticulture Officer’s role is necessary for the development of Rythu Bazaars especially for maintaining the balance in the prices of vegetable produce and maintain the balance in the supply and demand conditions, if efficiently utilized the services of Horticulture Officer. In this context, the present table on farmers’ perceptions towards usefulness of Horticulture Officer Services for the development of Rythu Bazaars is considered significant.

<table>
<thead>
<tr>
<th>Perceptions of Farmers</th>
<th>A’ Gr RB</th>
<th>B’ Gr RB</th>
<th>C’ Gr RB</th>
<th>D’ Gr RB</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Very Useful</td>
<td>1</td>
<td>0</td>
<td>4</td>
<td>2</td>
<td>7</td>
</tr>
<tr>
<td></td>
<td>2.50%</td>
<td>0.00%</td>
<td>10.00%</td>
<td>5.00%</td>
<td>4.38%</td>
</tr>
<tr>
<td>Moderately Useful</td>
<td>5</td>
<td>3</td>
<td>5</td>
<td>2</td>
<td>15</td>
</tr>
<tr>
<td></td>
<td>12.50%</td>
<td>7.50%</td>
<td>12.50%</td>
<td>5.00%</td>
<td>9.38%</td>
</tr>
<tr>
<td>Less Useful</td>
<td>15</td>
<td>17</td>
<td>2</td>
<td>5</td>
<td>39</td>
</tr>
<tr>
<td></td>
<td>37.50%</td>
<td>42.50%</td>
<td>5.00%</td>
<td>12.50%</td>
<td>24.38%</td>
</tr>
<tr>
<td>Not at all Useful</td>
<td>19</td>
<td>20</td>
<td>29</td>
<td>31</td>
<td>99</td>
</tr>
<tr>
<td></td>
<td>47.50%</td>
<td>50.00%</td>
<td>72.50%</td>
<td>77.50%</td>
<td>61.88%</td>
</tr>
<tr>
<td>Total</td>
<td>40</td>
<td>40</td>
<td>40</td>
<td>40</td>
<td>160</td>
</tr>
</tbody>
</table>

Source: Primary Data
Horticulture Officer Services were not at all useful for the sake of farmer sellers noticed highest in C Grade Rythu Bazaars followed by D Grade Rythu Bazaars with 5 per cent of the farmer sellers, A Grade Rythu Bazaars with 2.5 per cent of the farmer sellers whereas it was negligible in the case of B Grade Rythu Bazaar farmer sellers.

About 61.88 per cent of the were expressing their views that the services of Horticulture Officer was not at all useful for both the farmer sellers and Rythu Bazaars because most of the Rythu bazaars were not engaging the services of Horticulture Officer for the sake of farmer sellers followed by 24.38 per cent farmer sellers were able to utilize the services of Horticulture Officer about seed varieties etc. about 9.38 per cent of the farmer sellers were able to utilize the services of Horticulture Officer through getting subsidized seed, fertilizers etc whereas only 4.38 per cent of the farmer sellers were able to utilize the services of Horticulture Officer through getting subsidized seed, getting information regarding variety to be grown at village level etc.

Horticulture Officer Services were being utilized for the sake of farmer sellers noticed highest for D Grade Rythu Bazaar farmer sellers with 77.5 per cent followed by C Grade Rythu Bazaar farmer sellers with 72.5 per cent, B Grade Rythu Bazaar farmer sellers with 50 per cent whereas it was least for A Grade Rythu Bazaar farmer sellers with only 47.5 per cent.

Horticulture Officer Services were being utilized less (less useful) for the sake of farmer sellers noticed highest for B Grade Rythu Bazaar farmer sellers followed by A Grade Rythu Bazaar farmer sellers whereas it was noticed least in the case of C Grade Rythu Bazaar farmer sellers with only 5 per cent.

Horticulture Officer Services were moderately useful for majority of the farmer sellers at both C and A Grade Rythu Bazaars with 12.5 per cent whereas it was noticed least in D Grade Rythu Bazaars.

5.1.8 Farmers’ perceptions / Suggestions on Role of Horticulture Officer:

Like Estate Officer, Horticulture Officer Services are also very crucial for the development of the Rythu Bazaars because as a technical expert he can properly guide the farmers which variety will give more yield, which crop is suitable for the soil, how much amount of water is enough for the production of the variety of vegetables
etc. In this context, the present table farmers’ perceptions / suggestions on Role of Horticulture Officer is considered significant.

**Table – 5.1.8**  
**Farmers Perceptions / Suggestions on Role of Horticulture Officer**

<table>
<thead>
<tr>
<th>Perceptions of Farmers</th>
<th>A’ Gr RB</th>
<th>B’ Gr RB</th>
<th>C’ Gr RB</th>
<th>D’ Gr RB</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Should Educate the Farmers on Demanded Crops and Varieties at Pre-Production Stage</td>
<td>10</td>
<td>8</td>
<td>5</td>
<td>9</td>
<td>32</td>
</tr>
<tr>
<td>25.00%</td>
<td>20.00%</td>
<td>12.50%</td>
<td>22.50%</td>
<td>20.00%</td>
<td></td>
</tr>
<tr>
<td>Should Educate the Farmers on Crops Growth at Production Stage</td>
<td>3</td>
<td>4</td>
<td>7</td>
<td>3</td>
<td>17</td>
</tr>
<tr>
<td>7.50%</td>
<td>10.00%</td>
<td>17.50%</td>
<td>7.50%</td>
<td>10.63%</td>
<td></td>
</tr>
<tr>
<td>Should Provide / Linkup the Farmers with Subsidized Seed / items and Market linkup</td>
<td>15</td>
<td>14</td>
<td>11</td>
<td>10</td>
<td>50</td>
</tr>
<tr>
<td>37.50%</td>
<td>35.00%</td>
<td>27.50%</td>
<td>25.00%</td>
<td>31.25%</td>
<td></td>
</tr>
<tr>
<td>All of the Above</td>
<td>12</td>
<td>14</td>
<td>17</td>
<td>18</td>
<td>61</td>
</tr>
<tr>
<td>30.00%</td>
<td>35.00%</td>
<td>42.50%</td>
<td>45.00%</td>
<td>38.13%</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>40</td>
<td>40</td>
<td>40</td>
<td>40</td>
<td>160</td>
</tr>
</tbody>
</table>

**Source: Primary Data**

About 38.13 per cent of farmer sellers opined that Horticulture Officer Services should be utilized for pre-production, production and post production stage activities like should educate the farmer sellers on demanded crops and varieties to be grown at pre-production stage, should educate the farmers on pests, fertilizers etc for crops growth at production stage and farmers should be linked with government subsidized seed agencies, irrigations facilities like sprinklers, marketing of vegetable produce etc. followed by 31.25 per cent of the farmer sellers opined that Horticulture Officer Services should be utilized at Marketing stage and convergence with subsidized agricultural inputs activities, about 20 per cent of the farmer sellers opined that Horticulture Officer Services should be utilized at pre-production stage to control the demand and supply conditions thereby control the prices of the vegetable produce whereas only 7.5 per cent of the farmer sellers opined that the services of horticulture officer should be utilized at production stage for especially crop management.

**Majority of farmer sellers opined that the services of Horticulture Officer were required at Marketing stage (37.5 per cent) followed by all the stages of production (30 per cent), pre-production stage (25 per cent) whereas only 7.5 per cent of the farmer sellers required the Horticulture Officer Services at production stage in A Grade Rythu Bazaars.**
Majority of farmer sellers from both D and C Grade Rythu Bazaars opined that the services of Horticulture Officer were required at all stages of production (42.5 per cent) whereas it was required least at pre-production stage (12.5 per cent).

Majority of farmer sellers from both D and C Grade Rythu Bazaars opined that the services of Horticulture Officer were required at all stages of production (42.5 per cent) whereas it was required least at pre-production stage (12.5 per cent).

It is observed from the field study that majority of the farmer sellers opined that Horticulture Officer Services will be useful more than Estate Officer Services. Hence, it is concluded that if Horticulture Officer performs the better then farmer sellers will get more and more benefits by growing the Horticulture crops.

### 5.1.9 Farmers’ Perceptions towards information Dissemination:

Vegetable marketing is successful when information dissemination regarding prices of the product, place of the demand, demand for the product. When these information is perfectly known to the farmers then farmers can postpone / pre-pone the harvesting the produce and can adjust the supply according to demand conditions for atleast some period. Present system of information dissemination is only displaying the rates at Rythu Bazaars boards in different places of Rythu Bazaars and if any one make a call to the Rythu Bazaar authorities then Rythu Bazaar authorities were providing the information what they know and on the other hand the main information channel for the farmers are co-farmers. It is in this context, the present table on farmers perceptions towards information dissemination regarding prices, demand for the produce, place of the demand is considered significant.

<table>
<thead>
<tr>
<th>Perceptions of Farmers</th>
<th>A’ Gr RB</th>
<th>B’ Gr RB</th>
<th>C’ Gr RB</th>
<th>D’ Gr RB</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Satisfied</td>
<td>7</td>
<td>9</td>
<td>4</td>
<td>5</td>
<td>25</td>
</tr>
<tr>
<td></td>
<td>17.50%</td>
<td>22.50%</td>
<td>10.00%</td>
<td>12.50%</td>
<td>15.63%</td>
</tr>
<tr>
<td>Moderately Satisfied</td>
<td>11</td>
<td>10</td>
<td>11</td>
<td>9</td>
<td>41</td>
</tr>
<tr>
<td></td>
<td>27.50%</td>
<td>25.00%</td>
<td>27.50%</td>
<td>22.50%</td>
<td>25.63%</td>
</tr>
<tr>
<td>Moderately Dissatisfied</td>
<td>9</td>
<td>11</td>
<td>10</td>
<td>9</td>
<td>39</td>
</tr>
<tr>
<td></td>
<td>22.50%</td>
<td>27.50%</td>
<td>25.00%</td>
<td>22.50%</td>
<td>24.38%</td>
</tr>
<tr>
<td>Dissatisfied</td>
<td>13</td>
<td>10</td>
<td>15</td>
<td>17</td>
<td>55</td>
</tr>
<tr>
<td></td>
<td>32.50%</td>
<td>25.00%</td>
<td>37.50%</td>
<td>42.50%</td>
<td>34.38%</td>
</tr>
<tr>
<td>Total</td>
<td>40</td>
<td>40</td>
<td>40</td>
<td>40</td>
<td>160</td>
</tr>
</tbody>
</table>

Source: Primary Data
Majority of farmer sellers of all Rythu Bazaars were dissatisfied with the present system of information dissemination and complained that unless farmer comes to the Rythu Bazaars the information does not provide to the farmer sellers by marketing authorities according to them even in Rythu Bazaars also the information on fluctuations of prices of the particular product is not being addressed by the market authorities.

Majority of dissatisfied farmer sellers were noticed in D Grade Rythu Bazaars with 42.5 per cent followed by C Grade Rythu Bazaars with 37.5 and A Grade Rythu Bazaar with 32.5 per cent whereas it was very low in the case of B Grade Rythu Bazaars with only 25 per cent.

Majority of satisfied farmer sellers regarding information dissemination was noticed highest in B Grade Rythu Bazaars followed by A Grade Rythu Bazaars with 17.5 per cent, D Grade Rythu Bazaars with only 12.5 per cent whereas it was only 10 per cent in the case of C Grade Rythu Bazaars.

5.1.10 Farmers Perceptions on Expectations on Different Information Services:

It is well known fact that which type of information the farmer sellers want to get we should know before providing the information and which channel is perfectly suitable to the farmer. If provide properly, then farmer sellers can adjust their harvesting according to the demand and price situations at least some period. It is in this context, the present table on farmers’ perception on expectations on different information services is considered significant.

<table>
<thead>
<tr>
<th>Perceptions of Farmers</th>
<th>A’ Gr RB</th>
<th>B’ Gr RB</th>
<th>C’ Gr RB</th>
<th>D’ Gr RB</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Information required on Demand for the Product at pre-production stage</td>
<td>11</td>
<td>9</td>
<td>6</td>
<td>4</td>
<td>30</td>
</tr>
<tr>
<td>Information on Prices and Demand for the Product at RB</td>
<td>6</td>
<td>7</td>
<td>8</td>
<td>9</td>
<td>30</td>
</tr>
<tr>
<td>Information on Prices and Demand for the Product at Various Rythu Bazaars</td>
<td>15</td>
<td>13</td>
<td>12</td>
<td>14</td>
<td>54</td>
</tr>
<tr>
<td>Information on Wholesale / Retail Market Prices at various places</td>
<td>2</td>
<td>9</td>
<td>7</td>
<td>8</td>
<td>26</td>
</tr>
<tr>
<td>All of the above</td>
<td>6</td>
<td>2</td>
<td>7</td>
<td>5</td>
<td>20</td>
</tr>
<tr>
<td>Total</td>
<td>40</td>
<td>40</td>
<td>40</td>
<td>40</td>
<td>160</td>
</tr>
</tbody>
</table>

Source: Primary Data
Majority of farmer sellers (about 33.75 per cent) want to get the information on prices and demand for the product at various Rythu Bazaars apart from getting the information from their own Rythu Bazaar prices in all grades of Rythu Bazaars followed by 18.75 per cent of the farmer sellers want to get the information on demand for the product at pre-production stage and information on prices and demand for the product at Rythu Bazaars and 16.25 per cent of the farmer sellers want the updated information on hourly basis on both wholesale and retail prices apart from getting the information on Rythu Bazaar prices whereas only 12.5 per cent of the farmer sellers were seeking information on prices and demand for the product from all the Rythu Bazaars, wholesale and retail markets apart from getting the information from their concerned Rythu Bazaars.

Majority of farmer sellers seeking all types of information regarding prices and demand for the product mentioned in the above table was noticed highest by majority of respondents from C Grade Rythu bazaars with 17.5 per cent followed by 15 per cent from A Grade Rythu Bazaar farmer sellers whereas it was noticed least by B Grade Rythu Bazaar farmer sellers.

Majority of farmer sellers seeking information on prices and demand for the product at pre-production stage to seed the demanded product thereby getting the maximum returns was noticed highest by A Grade Rythu Bazaars followed by B Grade Rythu Bazaars whereas it was low by D Grade Rythu Bazaars with only 10 per cent.

Majority of farmer sellers seeking the information on prices and demand for the product at Marketing stage of the product or harvesting stage of the product from different Rythu Bazaars was noticed highest in A Grade Rythu Bazaars with 37.5 per cent followed by D Grade Rythu bazaars with 35 per cent whereas it was low in the case of C Grade Rythu Bazaars, because D Grade Rythu bazaar farmer sellers need this type of information to sell their product at various Rythu Bazaars, if government permits.

Majority of farmer sellers seeking the updated information on prices and demand for the product at various wholesale markets and retail markets apart from getting the information from concerned Rythu Bazaars was noticed highest in B Grade Rythu Bazaars with 22.5 per cent farmer sellers followed by D Grade Rythu Bazaars with 20 per cent whereas it was low from B Grade Rythu Bazaars with only 5 per cent of the farmer sellers.
Majority of farmer sellers seeking the information on prices and demand for the product at pre-production stage was noticed highest in A Grade Rythu Bazaars with 27.5 per cent farmer sellers followed by B Grade Rythu Bazaars with 22.5 per cent farmer sellers whereas it was low from D Grade Rythu Bazaars with only 10 per cent.

5.1.11 Farmers Perceptions on Public Transportation Facilities Available:

Transportation facilities decide the Marketing cost of the produce for the farmer sellers. Any organisation that is growing gradually should provide the transportation facilities to the farmer sellers that will affect the whole gamut of the sales proceedings or supply of the produce to the particular Rythu Bazaars. At present, the main problem of the farmer sellers was lack of transportation facilities to bring the vegetable produce to the Rythu Bazaar. Only A Grade Rythu Bazaars were having the public transportation facilities whereas in rest of the Rythu Bazaars there is no public transportation facility to the Rythu Bazaars. Hence, farmer sellers were not able to bare the cost of transportation to bring the vegetable produce to the concerned Rythu Bazaar so most of the farmers were bringing the vegetable produce to the Wholesale markets and among them a few percentage of vegetable produce was being sold at Rythu Bazaars. It is in this context, the present table on farmers’ perceptions on public transportation facilities available for bringing the vegetable produce to the Rythu Bazaar is considered significant.

<table>
<thead>
<tr>
<th>Perceptions of Farmers</th>
<th>A’ Gr RB</th>
<th>B’ Gr RB</th>
<th>C’ Gr RB</th>
<th>D’ Gr RB</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Satisfied</td>
<td>17</td>
<td>9</td>
<td>1</td>
<td>0</td>
<td>27</td>
</tr>
<tr>
<td></td>
<td>42.50%</td>
<td>22.50%</td>
<td>2.50%</td>
<td>0.00%</td>
<td>16.88%</td>
</tr>
<tr>
<td>Moderately Satisfied</td>
<td>11</td>
<td>11</td>
<td>10</td>
<td>1</td>
<td>33</td>
</tr>
<tr>
<td></td>
<td>27.50%</td>
<td>27.50%</td>
<td>25.00%</td>
<td>2.50%</td>
<td>20.63%</td>
</tr>
<tr>
<td>Moderately Dissatisfied</td>
<td>7</td>
<td>14</td>
<td>18</td>
<td>18</td>
<td>57</td>
</tr>
<tr>
<td></td>
<td>17.50%</td>
<td>35.00%</td>
<td>45.00%</td>
<td>45.00%</td>
<td>35.63%</td>
</tr>
<tr>
<td>Dissatisfied</td>
<td>5</td>
<td>6</td>
<td>11</td>
<td>21</td>
<td>43</td>
</tr>
<tr>
<td></td>
<td>12.50%</td>
<td>15.00%</td>
<td>27.50%</td>
<td>52.50%</td>
<td>26.88%</td>
</tr>
<tr>
<td>Total</td>
<td>40</td>
<td>40</td>
<td>40</td>
<td>40</td>
<td>160</td>
</tr>
</tbody>
</table>

Source: Primary Data

About 35.63 per cent of the farmer respondents were moderately dissatisfied with the present provision of public transportation arrangements to the Rythu Bazaars for the sake of farmer sellers followed by 26.88 per cent of the farmer respondents.
were dissatisfied with the present provision of public transportation facilities arranged by the Government / Market authorities, 20.63 per cent of the farmer respondents were moderately satisfied with the present provision of public transportation arrangements whereas it was very low (about 16.88 per cent) in the case of satisfied farmer respondents on present provision of public transportation arrangements.

Satisfied farmer respondents, who were able to utilize the services of public transportation facilities, were noticed highest by A Grade Rythu Bazaar farmer sellers with 42.5 per cent followed by 22.5 per cent of the farmer sellers from B Grade Rythu Bazaars whereas none of the farmer seller was able to utilize the services of public transportation facilities provided by the Government / Rythu Bazaar authorities.

Dissatisfied farmer respondents, who were not able to utilize the services of public transportation facilities, were noticed highest by D Grade Rythu Bazaar farmer sellers with 52.5 per cent followed by 27.5 per cent of the farmer sellers from C Grade Rythu Bazaars, 15 per cent of the farmer sellers from B Grade Rythu Bazaars whereas the same was noticed lowest by A Grade Rythu Bazaars farmer sellers with only 12.5 per cent.

Moderately dissatisfied farmer respondents, who were not able to utilize the services of public transportation facilities, were noticed highest by both C and D Grade Rythu Bazaar farmer respondents with 45 per cent each whereas the same was noticed least by A Grade Rythu Bazaar farmer respondents with only 17.5 per cent.

Moderately satisfied farmer respondents, who were able to utilize the services of public transportation facilities, were noticed highest by both A and B Grade Rythu Bazaar farmer sellers with 27.5 per cent each whereas it was by least farmer sellers (about 2.5 per cent farmer sellers), who were able to utilize the services of public transportation facilities to bring the vegetable produce to the Rythu Bazaars.

5.1.12 Farmers’ suggestions on Transportation Arrangements:

It is in this situation, the perceptions on getting transportation arrangements are considered significant.

Majority of about 34.38 per cent of the farmer sellers were expecting from the government / Rythu Bazaar authorities that Government should provide the loans for two / three wheelers to bring the vegetable produce to the Rythu Bazaars very easily followed by about 31.88 per cent of the farmer respondents were expecting that public transportation should be made available for the farmer sellers to bring the vegetable produce to the Market and return to the market whereas about 21.25 per cent of the
farmer respondents were expecting from the Rythu Bazaar authorities that Rythu Bazaar authorities should arrange the vehicles to bring their vegetable produce from the accessible point to the farmers with collecting nominal charges whereas only 12.5 per cent of the farmer sellers were expressing that all above mentioned facilities should be made available for the farmer sellers according to the convenient.

Table – 5.1.12
Farmers Suggestions on Transportation Arrangements

<table>
<thead>
<tr>
<th>Perceptions of Farmers</th>
<th>‘A’ Gr RB</th>
<th>‘B’ Gr RB</th>
<th>‘C’ Gr RB</th>
<th>‘D’ Gr RB</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Public Transport should be made available</td>
<td>9 22.50%</td>
<td>7 17.50%</td>
<td>16 40.00%</td>
<td>19 47.50%</td>
<td>51 31.88%</td>
</tr>
<tr>
<td>Should Provide Loans for Two / Three Wheelers</td>
<td>19 47.50%</td>
<td>13 32.50%</td>
<td>14 35.00%</td>
<td>9 22.50%</td>
<td>55 34.38%</td>
</tr>
<tr>
<td>RB Should arrange a Vehicle at Govt. Rate</td>
<td>10 25.00%</td>
<td>11 27.50%</td>
<td>5 12.50%</td>
<td>8 20.00%</td>
<td>34 21.25%</td>
</tr>
<tr>
<td>All of the above</td>
<td>2 5.00%</td>
<td>9 22.50%</td>
<td>5 12.50%</td>
<td>4 10.00%</td>
<td>20 12.50%</td>
</tr>
<tr>
<td>Total</td>
<td>40</td>
<td>40</td>
<td>40</td>
<td>40</td>
<td>160</td>
</tr>
</tbody>
</table>

Source: Primary Data

Farmer respondents expecting that loans should be arranged for getting personal vehicles to bring the vegetable produce to the Rythu Bazaar was noticed highest by A Grade Rythu Bazaar farmer respondents with 47.5 per cent followed by C Grade Rythu Bazaar farmer respondents with 35 per cent, B Grade farmer respondents with 32.5 per cent whereas it was noticed least by D Grade Rythu Bazaar farmer sellers with only 22.5 per cent.

Farmer respondents expecting that vehicle should be arranged to bring the vegetable produce from the accessible point to the farmer sellers with collecting nominal charges by the Rythu Bazaar authorities noticed highest in B Grade Rythu Bazaars by about 27.5 per cent of farmer respondents followed by 25 per cent of farmer respondent from A Grade Rythu Bazaars whereas it was noticed least from C Grade Rythu bazaars with only 12.5 per cent of the farmer sellers.

Farmer respondents expecting public transportation should be made available for the farmer sellers to bring the vegetable produce to the Rythu Bazaar was noticed highest by D Grade Rythu Bazaar farmer sellers with 47.5 per cent whereas it was noticed least by B Grade Rythu Bazaar farmer sellers with 17.5 per cent.

It is concluded from the table that Government / Rythu Bazaar authorities should arrange all the facilities like public transportation facilities, loan facility to get
the personal vehicles and Rythu Bazaar vehicles should be made available so that farmer sellers can utilize the services according to their accessibility and situations.

5.1.13 Farmers’ perceptions towards usefulness of Training Programmes for the Development of Rythu Bazaars:

Up-gradation of skills is necessary for each and every person in the present day competitive world. Being a small farmer, training is required on cooperative management, marketing management, processing, pre-production measures to balance the price and demand supply conditions etc. Without training, these small and marginal farmers would not benefit or would not able to take the initiative steps towards the development of Rythu Bazaars. It is in this context, the present table on Farmers’ Perceptions towards usefulness of Training Programmes for the development of Rythu Bazaars is considered significant.

<table>
<thead>
<tr>
<th>Perceptions of Farmers</th>
<th>A’ Gr RB</th>
<th>B’ Gr RB</th>
<th>C’ Gr RB</th>
<th>D’ Gr RB</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Very Useful</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>0.00%</td>
<td>0.00%</td>
<td>0.00%</td>
<td>0.00%</td>
<td>0.00%</td>
<td>0.00%</td>
</tr>
<tr>
<td>Moderately Useful</td>
<td>1</td>
<td>2</td>
<td>0</td>
<td>0</td>
<td>3</td>
</tr>
<tr>
<td>2.50%</td>
<td>5.00%</td>
<td>0.00%</td>
<td>0.00%</td>
<td>0.00%</td>
<td>1.88%</td>
</tr>
<tr>
<td>Less Useful</td>
<td>11</td>
<td>9</td>
<td>7</td>
<td>5</td>
<td>32</td>
</tr>
<tr>
<td>27.50%</td>
<td>22.50%</td>
<td>17.50%</td>
<td>12.50%</td>
<td></td>
<td>20.00%</td>
</tr>
<tr>
<td>Not at all Useful</td>
<td>28</td>
<td>29</td>
<td>33</td>
<td>35</td>
<td>125</td>
</tr>
<tr>
<td>70.00%</td>
<td>72.50%</td>
<td>82.50%</td>
<td>87.50%</td>
<td></td>
<td>78.13%</td>
</tr>
<tr>
<td>Total</td>
<td>40</td>
<td>40</td>
<td>40</td>
<td>40</td>
<td>160</td>
</tr>
</tbody>
</table>

Source: Primary Data

Farmers expressing that the present on going training programmes were moderately useful to the majority of farmer respondents from B Grade Rythu Bazaars with only 5 per cent farmer respondents followed by 2.5 per cent of the farmer sellers opined the same from A Grade Rythu Bazaars.

Farmers expressing that the present ongoing training programmes were not at all useful by majority of farmer respondents with 78.13 per cent of the farmer sellers followed by it was less useful by 20 per cent of the farmer sellers, 1.88 per cent of the farmers were expressing that the present ongoing training programmes were moderately useful for them whereas none of the farmer seller was expressing that it was very useful for them.
Farmers opined that the present ongoing training programmes was not at all useful for either the farmers or Rythu Bazaars by majority of farmer respondents from D Grade Rythu Bazaars with 87.5 per cent farmer respondents whereas it was noticed the same opinion by least of the farmer sellers from A Grade Rythu Bazaar farmer sellers with only 70 per cent.

Farmers opined that the present ongoing training programmes were less useful by majority of farmer respondents from A Grade Rythu Bazaar farmer respondents with 27.5 per cent whereas it was noticed least by D Grade Rythu Bazaar farmer respondents with only 12.5 per cent.

5.1.14 Perceptions of Farmer Respondents on Seeking Awareness for the Development of Rythu Bazaars:
   
   It is very important to know the about the perceptions of farmers on development of Rythu Bazaars in other words, in what ways farmers were expecting the development from the government is considered significant and same is reflected from the following table. From this table we can know what type of training are required to develop the Rythu bazaars as well as to get the remunerative prices for the farmers is also important for us.

<table>
<thead>
<tr>
<th>Perceptions of Farmers</th>
<th>A’ Gr RB</th>
<th>B’ Gr RB</th>
<th>C’ Gr RB</th>
<th>D’ Gr RB</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Training on Cooperative Management</td>
<td>15</td>
<td>18</td>
<td>11</td>
<td>7</td>
<td>51</td>
</tr>
<tr>
<td></td>
<td>37.50%</td>
<td>45.00%</td>
<td>27.50%</td>
<td>17.50%</td>
<td>31.88%</td>
</tr>
<tr>
<td>Training on Marketing Management</td>
<td>17</td>
<td>11</td>
<td>20</td>
<td>22</td>
<td>70</td>
</tr>
<tr>
<td></td>
<td>42.50%</td>
<td>27.50%</td>
<td>50.00%</td>
<td>55.00%</td>
<td>43.75%</td>
</tr>
<tr>
<td>Awareness on Price Fixation</td>
<td>1</td>
<td>6</td>
<td>5</td>
<td>9</td>
<td>21</td>
</tr>
<tr>
<td></td>
<td>2.50%</td>
<td>15.00%</td>
<td>12.50%</td>
<td>22.50%</td>
<td>13.13%</td>
</tr>
<tr>
<td>Awareness on Pre-Production Measures</td>
<td>7</td>
<td>5</td>
<td>4</td>
<td>2</td>
<td>18</td>
</tr>
<tr>
<td></td>
<td>17.50%</td>
<td>12.50%</td>
<td>10.00%</td>
<td>5.00%</td>
<td>11.25%</td>
</tr>
<tr>
<td>Total</td>
<td>40</td>
<td>40</td>
<td>40</td>
<td>40</td>
<td>160</td>
</tr>
</tbody>
</table>

Source: Primary Data

Majority of about 43.75 per cent of the farmer respondents were expressing that training on Marketing management is very important for them rather than providing other training programmes followed by 31.88 per cent of the farmer respondents expressed that training on cooperative management is very important for them because it covers all such as processing, marketing management, credit facilities, training at pre-production, production stages etc., about 13.13 per cent of
the farmer sellers expressed that training on price fixation is very important for them because present system of price fixation and fluctuations especially at wholesale markets were not able to understand by the farmer sellers whereas least percentage of farmer sellers opined that awareness on pre-production measures is required for them rather than providing any other training programmes.

Training on Cooperative Management is helpful more than other training programmes was expressed by majority of farmer sellers (45 per cent) from B Grade Rythu Bazaars whereas the same was expressed by least farmer respondents (17.5 per cent) from D Grade Rythu Bazaars.

Training on Marketing Management is required more than any other training programmes was expressed by majority of farmer sellers (55 per cent) from D Grade Rythu Bazaars whereas the same was expressed by least farmer sellers (27.5 per cent) from B Grade Rythu Bazaars.

Awareness on price fixation was more important for them rather than providing any other training programmes was noticed highest by majority of respondents (22.5 per cent) from D Grade Rythu bazaars whereas the same was expressed by least percentage of farmer respondents (2.5 per cent) from A Grade Rythu bazaars.

Awareness on pre-production measures was required more than any other training programme was noticed highest by A Grade Rythu bazaar farmer respondents with 17.5 per cent whereas the same was noticed by least of the farmer sellers with only 5 per cent from D Grade Rythu bazaars.

It is concluded from the table that Cooperative Management type of training programmes will be useful for the farmer sellers rather than providing any other training programmes to the farmer sellers because it covers all the subjects like pre-production, production and marketing stage trainings including processing with community based management.

5.1.15 Perceptions of Farmer Sellers on Facilities available at Rythu Bazaars:

Performance of the Rythu Bazaars was depended on how best facilities are being provided to both the farmer sellers and consumers at Rythu Bazaars and it is also depended on priority of the services / facilities. Hence, the present table on perceptions of farmer sellers on facilities available at Rythu Bazaars is considered significant.
**Table – 5.1.15**

Perceptions of Farmer Sellers on Facilities available at Rythu Bazaars

<table>
<thead>
<tr>
<th>Perceptions of Farmer Sellers</th>
<th>Level of Satisfaction</th>
<th>A’ Gr RB</th>
<th>B’ Gr RB</th>
<th>C’ Gr RB</th>
<th>D’ Gr RB</th>
<th>Total</th>
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<td>17</td>
<td>19</td>
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<td>72.50%</td>
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<td>27.50%</td>
<td>47.50%</td>
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<tr>
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<td>7</td>
<td>8</td>
<td>23</td>
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</tr>
<tr>
<td>Weighing Machines / Stones</td>
<td>Satisfied</td>
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<td>13</td>
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<td>17.50%</td>
<td>15.63%</td>
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</tr>
<tr>
<td>Cold Storage Facility</td>
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<td>7</td>
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<td>17.50%</td>
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</tr>
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<td>Maintenance of Sanitation</td>
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<td>24</td>
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<td>60.00%</td>
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<td>10.00%</td>
<td>8.13%</td>
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</tr>
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<td>25.00%</td>
<td>32.50%</td>
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</tr>
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</tr>
<tr>
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<td>29</td>
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<td>65.63%</td>
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<td>6</td>
<td>3</td>
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<td>45.00%</td>
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<td></td>
</tr>
<tr>
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<td>32</td>
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</tr>
<tr>
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<td>2.50%</td>
<td>0.00%</td>
<td>5.00%</td>
</tr>
<tr>
<td>Rest Room / House Facility</td>
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<td>16</td>
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<td>15.00%</td>
<td>19.38%</td>
</tr>
<tr>
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<td>15.00%</td>
<td>19.38%</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Not Satisfied</td>
<td>19</td>
<td>35</td>
<td>24</td>
<td>33</td>
<td>111</td>
</tr>
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<td></td>
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<td>82.50%</td>
<td>69.38%</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Neutral</td>
<td>5</td>
<td>5</td>
<td>7</td>
<td>1</td>
<td>18</td>
</tr>
<tr>
<td>Internet Facility</td>
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<td>12.50%</td>
<td>12.50%</td>
<td>17.50%</td>
<td>2.50%</td>
<td>11.25%</td>
</tr>
</tbody>
</table>

Source: Primary Data

Banking services covering credit facilities, petty coin change, savings etc to improve the standard of living of the farmer sellers in the Rythu Bazaars. About 47.5
per cent of the farmer sellers expressed their satisfaction towards providing the banking services at Rythu Bazaars. Among these, majority of the farmer sellers were from A Grade Rythu Bazaars with 72.5 per cent followed by C Grade Rythu Bazaar farmer sellers whereas it was noticed least from D Grade Rythu Bazaar farmer sellers.

As against this, about 29.38 per cent of the farmer sellers expressed their dissatisfaction towards providing the banking facilities for the farmer sellers at the Rythu Bazaars. Among these, majority of farmer sellers were from D Grade Rythu Bazaars whereas it was noticed least by B Grade Rythu Bazaar farmer sellers with only 17.5 per cent.

About 42.5 per cent of the farmer sellers expressed their satisfaction level on provision of weighing machines / stones at Rythu Bazaars whereas about 41.88 per cent of the farmer respondents expressed their dissatisfaction on provision of weighing machines / stones to sell their vegetable produce in the Rythu bazaar because when demand is very high without weighing machines / stones it is very difficult to sale their vegetable produce and it is also observed from the field study that majority of the farmer sellers were getting the weighing stones from neighbour farmer sellers during the sales. In that situation, most of the consumers will not ready to wait for them to buy vegetable produce from them.

Cold storage facility is very much useful for farmer especially vegetable growers so that they can preserve the vegetables for at least few days when demand is low and sell their produce when demand is very high thereby get remunerative price for them. Unfortunately, no Rythu Bazaars is having the cold storage facility among the sampled Rythu Bazaars in the state of Andhra Pradesh.

Sanitation facilities are more important especially for women farmer sellers. Proper maintenance shows the maintenance capacity of the Rythu Bazaar authorities. So, majority of farmer sellers will bring the vegetable produce and can stay throughout the day, if such facilities were available. It is in this context, satisfaction level of farmer sellers towards maintenance of the sanitation facilities is considered significant. About 62.5 per cent of the farmer respondents were not satisfied with the present maintenance of the sanitations especially B Grade and D Grade Rythu Bazaar farmer respondents.

Drinking water facilities is necessary for farmer sellers for both drinking purposes during their stay at Rythu Bazaars and sprinkling the water on vegetable produce especially on leafy vegetable produce otherwise it will get dry easily. It is in
this context, the present table is considered significant. Majority of about 53.13 per cent of the farmer sellers were satisfied with the provision of drinking water facility at the Rythu Bazaars premises whereas rest of 38.75 per cent of farmer sellers were not satisfied with the provision of drinking water facility for the farmer sellers in the Rythu bazaars.

Every farmer seller stays at least eight hours a day especially in C and D Grade Rythu Bazaars whereas in B and A Grade Rythu Bazaars it was 4 to 6 hours a day. Hence, it is necessary to have the canteen services for the farmers to reduce their cost of living at Rythu Bazaars. It is in this context, the present table on satisfaction level of farmer respondents on canteen services is considered significant. Majority of farmer respondents were not satisfied with the present provision of canteen facility in different grades of Rythu Bazaars. It was high in the case D Grade Rythu Bazaar farmer sellers (72.5 per cent) whereas it was low in the case of A Grade Rythu Bazaar farmer sellers because in A Grade Rythu bazaars canteen services are available in most of the centres.

Stall allotment is very risk especially in A Grade Rythu Bazaars whereas in other grades of Rythu Bazaars stalls were occupied by the non-farmers (earlier he was farmer seller) so that it is very headache for the Estate Officer to vacate from the stalls. Hence, majority of the farmer sellers especially in A Grade Rythu Bazaars were bringing the vegetable produce midnight itself and getting the space in accessible area. On the other hand, especially in B and C Grade Rythu Bazaars, farmer sellers used to beg the Estate Officers to get the accessible place for selling their vegetable produce in Rythu Bazaar because pre-occupied by non-farmer sellers with strong political support. About 28.13 per cent of the farmer sellers were not satisfied with present system of stall allocation pattern and among them, highest were from A Grade Rythu Bazaars (45 per cent) followed by B Grade Rythu Bazaars (40 per cent) whereas it was noticed low in the case of D Grade Rythu bazaars because all D Grade Rythu Bazaars were very established with number of stalls available.

It is also very important for the farmers who bring the vegetable produce a large amount especially during the night times because majority of the farmers who have unsold items will keep their produce at Rythu Bazaar premises and go to their house. During that time, theft may happen; cattle may eat the produce, if it is not protected well. It is in this context, satisfaction of farmer sellers towards facility provided by the market authorities is considered significant. About 65.13 per cent of
the farmer respondents were satisfied with the provision of space for keeping vegetable produce at Rythu Bazaars. Among them, least of farmer sellers were satisfied with the facility from A Grade Rythu Bazaars because majority of A Grade Rythu Bazaars were facing the problem of lack of space availability in the Rythu Bazaars.

Farmer acting both performances grows cultivation and sells the vegetable produce at the market. It is in this context, he needs rest. Majority of farmer sellers seek to get rest on non-marketing period in a day otherwise if he stays along with family members then most of the farmer sellers will take rest for some time in the Rythu bazaar itself. In that situation, rest house facility is very much required. In other words, if rest room is available then majority of the farmer respondents will stay back at Rythu Bazaars rather than facing the problem by going at midnight to their villages. About 76.25 per cent of the farmer sellers were not satisfied with the rest room facility available at Rythu Bazaars. It was highest in the case of B Grade Rythu Bazaars followed by C and D Grade Rythu Bazaars whereas it was not necessary in the case of D Grade Rythu Bazaars.

Internet facility gives the updated information on prices and demand for the product at various markets in around the cities. So that immediately farmer seller can change their price thereby get more remunerative prices. It is in this context, the present table on internet facility is considered significant. It is significant to note about 69.38 per cent of the farmer sellers were not satisfied with the provision of internet facility at the Rythu Bazaar.

5.2 Perceptions of Consumers on Functioning of Rythu Bazaars:

The inflation and price rise have long been the causes of worry among the Indian consumers; however the government seems to have gone in deep slumber about this issue. In such a scenario the very thought that the attempt of setting up of Rythu Bazaars in the state could help control prices comes like a cool breeze in sweltering summer. Retail sale is being encouraged in Andhra Pradesh by launching counters and shops at Rythu Bazaars. Presently there are 107 Rythu Bazaars functioning in the state with promoters and organizers who are optimistic and positive that the retail-sales depots may help in containing the soaring prices. In retail chin Rythu Bazaar consumers are swirling traditional fruits and vegetables markets, by acquiring in bulk straight from the doorstep of farmers, and booking the future
harvests through contract farming, contact farming and national sourcing with assured quality and supply chain. The sourcing directly from farmers at village level includes through collection centres at source or farmers directly delivering to distribution centres. Improved infrastructure is also provided at collection centres and distribution centres through storage facilities loading and weighing facilities. The road and network facilities are also provided at village levels. In the present chapter, an attempt has been made to know the perceptions of Consumers towards Marketing Efficiency of Rythu Bazaars.

Parking place is very important for keeping the vehicles especially for consumers’ point of view. If keep the vehicles on the road side then police people will put penalty / fine. Almost of all the Rythu Bazaars where the Rythu Bazaars were not functioning properly were not facing this type of problems whereas Rythu Bazaars which have not pucca building were facing this type of problem. Hence, majority of consumers were not willing to visit the Rythu Bazaars especially coming from long distance to buy vegetables in the Rythu Bazaars. It is in this context, present table on perceptions of consumers on parking place is considered significant.

About 40.63 per cent of the consumer respondents were satisfied with the parking place provided by the Rythu Bazaar authorities in the nearby premises followed by 30 per cent of the consumer respondents were moderately satisfied with the place provided for the parking in the premises whereas 29.38 per cent of consumer respondents were not satisfied with the parking place provided by the marketing authorities.

Parking place provided in the premises was satisfied by the majority of consumer respondents from D Grade Rythu Bazaars with 92.5 per cent followed by 42.5 per cent consumer respondents in C Grade Rythu Bazaars, 22.5 per cent in B Grade Rythu Bazaars whereas it was noticed least consumer respondents from A Grade Rythu Bazaars with only 5 per cent.

On the other hand, parking place provided in the premises of Rythu Bazaars was not satisfied by the consumer respondents noticed highest in A Grade Rythu bazaars with 77.5 per cent followed by B Grade Rythu Bazaars with 27.5 per cent whereas it was none of the respondents from D Grade Rythu Bazaars.
### Table – 5.2.1
Consumer Perceptions on Functioning of Rythu Bazaars

<table>
<thead>
<tr>
<th>Caste Category</th>
<th>A’ Gr RB</th>
<th>B’ Gr RB</th>
<th>C’ Gr RB</th>
<th>D’ Gr RB</th>
<th>Total</th>
</tr>
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<td>Parking Place</td>
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<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>Satisfied</td>
<td>2</td>
<td>9</td>
<td>17</td>
<td>37</td>
<td>65</td>
</tr>
<tr>
<td>Moderately</td>
<td>7</td>
<td>20</td>
<td>18</td>
<td>3</td>
<td>48</td>
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<tr>
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<td>0</td>
<td>5</td>
<td>0</td>
<td>47</td>
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<td>Display of Boards at Proper Places</td>
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<td></td>
<td></td>
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<tr>
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<td>11</td>
<td>10</td>
<td>24</td>
<td>52</td>
</tr>
<tr>
<td>Moderately</td>
<td>14</td>
<td>21</td>
<td>15</td>
<td>15</td>
<td>65</td>
</tr>
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<td></td>
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<td>11</td>
<td>10</td>
<td>54</td>
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<td>11</td>
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<td>25</td>
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<tr>
<td>Behaviour / Weighments</td>
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<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
| Satisfied                       | 17.50%   | 30.00%   | 40.00%   | 47.50%   | 33.75%
| Moderately                      | 40.00%   | 40.00%   | 37.50%   | 52.50%   | 43.75%
| Not Satisfied                   | 0.00%    | 2.50%    | 0.00%    | 0.00%    | 0.63%
| Cleaning of the Rythu Bazaar    |          |          |          |          |       |
| Satisfied                       | 7        | 12       | 16       | 19       | 54    |
| Moderately                      | 18       | 16       | 15       | 11       | 59    |
| Not Satisfied                   | 15       | 12       | 9        | 0        | 36    |
| Quality / Freshness of the Vegetables |      |          |          |          |       |
| Satisfied                       | 34       | 23       | 17       | 3        | 77    |
| Moderately                      | 6        | 15       | 16       | 12       | 49    |
| Not Satisfied                   | 0        | 2        | 7        | 0        | 34    |
| Sufficient Small Coins / Change |          |          |          |          |       |
| Satisfied                       | 2        | 15       | 7        | 11       | 35    |
| Moderately                      | 11       | 8        | 13       | 9        | 41    |
| Not Satisfied                   | 12       | 16       | 20       | 17       | 34    |
| Responses of the Estate Officer |          |          |          |          |       |
| Satisfied                       | 12       | 15       | 19       | 11       | 57    |
| Moderately                      | 18       | 16       | 9        | 12       | 55    |
| Not Satisfied                   | 10       | 9        | 12       | 17       | 48    |
| Availability of Graded / All Varieties of Vegetables |      |          |          |          |       |
| Satisfied                       | 2        | 19       | 13       | 2        | 60    |
| Moderately                      | 12       | 20       | 18       | 15       | 65    |
| Not Satisfied                   | 2        | 1        | 9        | 23       | 35    |
| Consistency of availability     |          |          |          |          |       |
| Satisfied                       | 24       | 17       | 17       | 9        | 56    |
| Moderately                      | 15       | 17       | 11       | 11       | 45    |
| Not Satisfied                   | 4        | 8        | 11       | 22       | 45    |

Source: Primary Data
Display of rate boards at proper places is the duty of Estate Officer. From this, consumers can see immediately the price and buy the vegetables and on the other hand, if any farmer sells beyond original prescribed rates then consumers can give complaint against the farmer sellers. Rythu Bazaar prices can be stabilised in this way. It is in this context, the present table on perceptions of consumer respondents on display of boards at proper places is considered significant.

Majority of the consumer respondents were moderately satisfied with the display of boards at proper places with 40.63 per cent of consumer respondents followed by 32.5 per cent of the consumer respondents were satisfied with the display the same whereas 26.88 per cent of the consumer respondents were not satisfied with display of boards at proper places in the Rythu Bazaars among the different Grades of Rythu Bazaars in the state of Andhra Pradesh.

Not at all satisfied consumer respondents with the display of boards at proper places were noticed highest in A Grade Rythu Bazaars with 47.5 per cent whereas it was lowest in the case of D Grade Rythu Bazaars with only 2.5 per cent and vice versa. Moderately satisfied with display of boards at proper places were noticed highest in B grade Rythu Bazaars with 52.5 per cent whereas it was noticed least in A Grade Rythu Bazaars with only 35 per cent.

It is observed from the field study that especially in Gudur Municipal Park Rythu Bazaar farmers were complaining that rate boards were being displayed at entrance of the Rythu Bazaar, which was not visible for farmers, and rates mentioned on the boards were higher or equal to local retail market rates. Hence, Gudur Municipal Park Rythu Bazaar is not functioning well. Hence, it is concluded from the table that proper monitoring is also very important to curtain this type of malpractices in the Rythu Bazaars.

It is the duty of Estate Officer to minimize the middlemen in the Rythu Bazaars. But in practice especially in B, C and D Grade Rythu Bazaars, few sellers were getting the ID Card from through proper channel and selling the vegetable produce in the Rythu Bazaars by occupying the permanent space in the Rythu Bazaars. These people are politically strong so that Estate Officers were not able to do anything because they have ID cards issued through proper channel. Hence, it is very difficult to reduce the middlemen unless involve the higher authorities at the state or district level.
About 33.75 per cent of the consumers were saying that there are no middlemen in the Rythu Bazaar as per their knowledge whereas about 34.38 per cent of consumers were complaining that still there is some middlemen selling the vegetables in the Rythu Bazaar premises and vice versa.

Behaviour of the farmer sellers is very important to sell their whole produce. Sometimes, behaviour of the farmer sellers affect on the selling the vegetable produce and weighments also. If the farmer’s behaviour is very pleasing nature then consumers will regularly visit that person and buy vegetables from him only and on the other hand, if the farmer sellers’ behaviour is somewhat rude / sly nature then the consumer will not accept to visit him daily.

About 62.5 per cent of the consumer respondents were satisfied with the behaviour of farmer sellers followed by 36.88 per cent of the consumer respondents were moderately satisfied with the behaviour of farmer sellers whereas it was negligible in the case of not satisfied with behaviour of farmer sellers in different grades of Rythu Bazaars in the state of Andhra Pradesh.

Satisfied consumer respondents with the behaviour of farmer sellers were noticed highest in D Grade Rythu Bazaars with 72.5 per cent whereas it was noticed lowest in the case of consumer respondents in B Grade Rythu Bazaars with 55 per cent. On the other hand, Not satisfied with the behaviour of farmer sellers were noticed in B Grade Rythu Bazaars whereas it was absent in A, C and D Grade Rythu Bazaars.

Wastage can be utilized for preparing the biogas by establishing the plants at Rythu Bazaar premises especially in A Grade Rythu Bazaars. Hence, it is easy to maintain the cleaning of the Rythu Bazaars and wastage can also be recycled effectively. Consumers were moderately satisfied with maintenance of wastage noticed highest with 43.75 per cent of the consumers followed by 33.75 per cent of the consumer respondents were satisfied with the maintenance of wastage in the Rythu Bazaars. On the other hand, consumers were not satisfied with the maintenance of wastage in the Rythu bazaars.

About 48.13 per cent of the consumer respondents were satisfied with the availability of quality / fresh vegetable produce in the Rythu Bazaars followed by 30.63 per cent of the consumer respondents were moderately satisfied with the availability of quality / fresh vegetable produce in the Rythu Bazaars whereas only
21.25 per cent of the consumer respondents were not satisfied with the availability of quality / fresh vegetable produce at Rythu Bazaars. Satisfied with availability of quality / fresh vegetable produce consumer respondents were noticed highest in A Grade Rythu bazaars with 85 per cent whereas it was least in D Grade Rythu Bazaars with only 7.5 per cent and vice versa.

Small coins / change are very important to do the petty business like retail marketing of vegetables. Some times, it creates troubles to both consumers and farmer sellers. Hence, especially in SBI Colony Rythu Bazaar, Estate Officers were taking initiations to linkup the Bank services to provide the small coins to the farmer sellers monthly twice or thrice. In most of the Rythu Bazaar areas, farmers were getting the change / tiny coins by paying some amount to the petty shop owners. For example, majority of the farmer sellers were paying Rs.10/- for getting tiny coins / change for Rs.100/-. Hence, it is considered significant.

Majority of A Grade Rythu Bazaar consumers were suffering with the lack of change / tiny coins with about 67.5 per cent followed by 50 per cent of the consumers in both C and D Grade Rythu Bazaars with 50 per cent whereas it was low in C Grade Rythu Bazaars with only 42.5 per cent because already in these Rythu Bazaars Estate Officers were taking initiations to get the change / tiny coins for the benefit of both consumers and farmer sellers.

Response of the Estate Officer is very crucial for the smooth functioning of the Rythu Bazaars because he acts like coordinator between the consumers and farmer sellers in the Rythu Bazaars. Consumers not satisfied with responses of Estate Officers were noticed highest in D Grade Rythu Bazaars with 42.5 per cent whereas it was low in the case of B Grade Rythu Bazaars with only 22.5 per cent. It is observed from the field study that especially in Gudur Municipal Park Rythu Bazaar, Estate Officer behaviour was very rude against the farmer sellers and he created the group to fight against them. This type of atmosphere will affect the marketing efficiency of Rythu Bazaars. Hence, it is concluded from the table that close monitoring will reduce this type of malpractices in the rythu Bazaars.

Rythu Bazaars performance depends on availability of graded / all varieties of vegetables in the Rythu Bazaars. If all grades of vegetables with all varieties available in the Rythu Bazaar then demand for the product will be very high. Hence, the present table on availability of graded / all varieties of vegetables are considered significant in the case of knowing the performance of the Rythu Bazaars. Majority of
about 40.63 per cent of the consumer respondents were moderately satisfied with availability of graded / all varieties of vegetables followed by 37.5 per cent of consumers satisfied with availability of the same whereas it was least in the case of consumers not satisfied with the same. Consumers not satisfied with availability of graded / all varieties of vegetables were noticed highest in D Grade Rythu Bazaars with 57.5 per cent whereas it was lowest in B Grade Rythu Bazaars with only 2.5 per cent and vice versa.

Consistency of availability of vegetable produce with all grades and all varieties is very important to know the marketing efficiency of the Rythu Bazaars. Majority of consumers were satisfied with consistency of availability of vegetable produce at Rythu bazaars followed by moderately satisfied with 35 per cent whereas it was lowest with not satisfied consumers on consistency of availability of vegetable produce in the Rythu Bazaars. Consumers satisfied with consistency of availability of vegetable produce was noticed highest in A Grade Rythu bazaars with 52.5 per cent followed by B, C and D Grades of Rythu Bazaar with 42.5 %, 30 % and 22.5 per cent respectively and vice versa.

**Conclusion:**

It is concluded from the chapter that prices at Rythu Bazaars, present system of information dissemination on prices and demand for the product, Banking and credit facilities, cold storage facility, maintenance of sanitation facilities, drinking water facility, canteen facility, parking place, rest room facility, convergence activities to promote the sales were influencing the performance of Rythu Bazaars especially A and B Grade Rythu Bazaars. On the other hand, Public Transportation facility, Entry of Middlemen, availability of fresh and quality vegetables with all varieties including graded vegetables, consistency of availability of vegetable produce were determining the performance of C and D Grade Rythu Bazaars.
Andhra Pradesh is the second largest producer of fruits, vegetables and flowers in the country. The predominantly grown fruit crops are mango, banana, Cashewnut, sapota, guava and pomegranate. Brinjal, Lady’s finger, onions, tomatoes, beans and gourds are the major vegetables produced in the state.

Regulated market yards for fruits and vegetables are functioning only at a few centres. The marketing system for fruits and vegetables is now in the hands of middlemen. Middlemen exist at various levels between the farmers and the consumers and exploit through malpractice in weighment, handling and payments. Large numbers of small farmers are unable to effectively bargain for better price in the wholesale market. Inefficiencies in the wholesale markets results in a long chain of intermediaries, multiple handling, loss of quality and increase the gap between the producer and consumer prices. Large number of small retailers, each handling small quantities, create high overheads leading to high margin on produces.

The farmer’s share in the consumer’s rupee is estimated to be just 40 Paisa. In addition to the estimated losses in handling of vegetables in the traditional channel of marketing is about 30 to 35%.

It was therefore felt necessary to evolve an alternate marketing strategy where both growers and consumers are benefited through Rythu Bazaars. Rythu Bazaars are thus planned for direct interface between the farmers and the consumers eliminating middlemen. Rythu Bazaars, if function effectively, can act as price stabilization centres.

Farmers have been exploited through ages. The Modern Governments provided some relief in this regard through the declaration of Minimum Support Price (MSP) for each of the Agriculture Product. The State Government of Andhra Pradesh tried to achieve the twin objectives of avoiding middlemen, who were benefititted more than the actual cultivators and to improve the economic status of the farmers, who were caught in the debt trap, through the introduction of the innovative policy of Rythu Bazaars in the year 1999. The present study aims to evaluate the performance of the Rythu Bazaars.

Objectives:

The main purpose of this study is to conduct a detailed investigation of the present market system of vegetables in Rythu Bazaars of Andhra Pradesh so as to assess the long term Sustainability of Rythu Bazaars in Agricultural Marketing of
Farm Products in Andhra Pradesh for further strengthening. Therefore, the present study has been undertaken especially:

1. to find out the response factors for fluctuations in prices of selected products among selected Rythu Bazaars;
2. to trace out the response factors for fluctuations in quantity arrivals among selected Rythu Bazaars;
3. to analyse the factors influencing the marketing efficiency of Rythu Bazaars;
4. to assess the perceptions of both farmers and consumers to improve the marketing efficiency of Rythu Bazaars; and
5. to suggest the appropriate policy measures for effective functioning of Rythu Bazaars.

Hypotheses:
The study proposed to test the following hypotheses:

1. There is no significant fluctuation in prices among Rythu Bazaars;
2. There is no significant fluctuation in quantity arrivals among Rythu Bazaars;
3. The economic factors do not influence the marketing efficiency of Rythu Bazaars;
4. The social factors do not influence the marketing efficiency of Rythu Bazaars;
5. There is significant difference in the opinions of both consumers and farmers;

Methodology:
The study is basically descriptive and analytical in nature, relies on survey method, provides a detailed picture of the existing situation of Rythu Bazaars in Andhra Pradesh and provides suggestions for improvement. Data pertaining to various aspects of the functioning of Rythu Bazaars in the state has been collected by personal visits to the Rythu Bazaars. The required data have been collected by administering schedules among sampled farmers and consumers of Rythu Bazaars influenced the performance of Rythu Bazaars. Apart from this, the actual situation regarding the attendance of farmers, arrival of vegetables, fluctuation in prices of vegetables in different seasons and the frequency of consumers visiting the Rythu Bazaars has been assessed through observation method.

Data Base:

Relevant secondary data has been culled from the official reports of Andhra Pradesh Economic Survey 2012-13, all the selected sample Rythu Bazaars in Andhra Pradesh, State Agriculture Marketing Department and the official reports of Government of India, Andhra Pradesh to analyse the Marketing Efficiency and role of
Rythu Bazaars in the Agricultural marketing of Farm Products in the state. As the secondary data were found to be insufficient to fulfil all the objectives of the study, primary data have also been collected from the sample members in the study region.

**Sources of Data:**

Primary and secondary data pertaining to the selected vegetables from selected Rythu Bazaars have been collected with the help of the pre-tested schedules designed, especially, for the present study.

**Designing the Interview Schedule:**

Keeping in view of the objectives a comprehensive interview schedule was prepared and canvassed separately for Estate Officer, member farmers, consumers of Rythu Bazars.

**Selection of Vegetables:**

The most important vegetable crops i.e. tomato, Brinjal, Lady Finger and green chillies were selected because these were cultivated in larger areas and are available throughout the year.

**Selection of Ryhtu Bazaars:**

In total of 107 Rythu Bazaars are located in the State of Andhra Pradesh divided into four Categories / Grades based on monthly average quantity arrivals of vegetables for the last 3 years viz., 2008-09, 2009-10 and 2010-11 to the respective Rythu Bazaars. The details of Rythu Bazaars are given in the following table:

<table>
<thead>
<tr>
<th>S.No.</th>
<th>Grade of Rythu Bazaar</th>
<th>Monthly Average Quantity Arrivals of Vegetables (In quintals)</th>
<th>No. of Rythu Bazaars</th>
</tr>
</thead>
<tbody>
<tr>
<td>01.</td>
<td>‘A’ – Grade Rythu Bazaars</td>
<td>7,500 and above</td>
<td>34</td>
</tr>
<tr>
<td>02.</td>
<td>‘B’ – Grade Rythu Bazaars</td>
<td>5,000 – 7,500</td>
<td>15</td>
</tr>
<tr>
<td>03.</td>
<td>‘C’ – Grade Rythu Bazaars</td>
<td>2,500 – 5,000</td>
<td>29</td>
</tr>
<tr>
<td>04.</td>
<td>‘D’ – Grade Rythu Bazaars</td>
<td>2,500 and below</td>
<td>29</td>
</tr>
<tr>
<td><strong>Total:</strong></td>
<td></td>
<td></td>
<td><strong>107</strong></td>
</tr>
</tbody>
</table>

Source: Directorate of Marketing, Hyderabad.

In a total of 107 Rythu Bazaars available in the state, a total of 14 Rythu Bazaars (about 13 per cent) were selected for the study. From Grade – A two Rythu Bazaars were visited, from Grade – B three; from Grade-C four; and from Grade-D five Rythu Bazaars were visited according to the availability of farmers in the Rythu Bazaars.
Selection of Farmers:

Keeping in view the objectives of the study, a sample of 40 farmers from each grade of Rythu Bazaar was taken through ‘Simple Random Sampling Technique’. Farmers growing selected sample vegetables, who have been bringing their vegetable produce to the respective existing Rythu Bazaars at present, were randomly selected to assess the performance of Rythu Bazaars. Rythu Bazaars were selected according to the number of farmers available in the Rythu Bazaars irrespective of Grades.

Selection of Consumers:

Keeping in view the objectives of the study, a sample of 160 consumers have been consulted through ‘Simple Random Sampling Technique’ from all the Rythu Bazars. In this method of selection, consumers who visit the respective Rythu Bazars regularly were randomly selected to know the perceptions towards marketing efficiency of Rythu Bazars.

Sampling Design:

<table>
<thead>
<tr>
<th>S.No.</th>
<th>Name of the RB</th>
<th>Grade</th>
<th>Rythu Bazars</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>No. of Farmers</td>
</tr>
<tr>
<td>1.</td>
<td>C Camp – Kurnool</td>
<td>‘A’</td>
<td>40</td>
</tr>
<tr>
<td>2.</td>
<td>Erragadda – Hyderabad</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3.</td>
<td>Arts College – Rajahmundry</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4.</td>
<td>SBI Colony – Rajahmundry</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5.</td>
<td>Quarry Centre – Rajahmundry</td>
<td></td>
<td></td>
</tr>
<tr>
<td>6.</td>
<td>Anantapur</td>
<td></td>
<td></td>
</tr>
<tr>
<td>7.</td>
<td>Kothapet – Kurnool</td>
<td>‘C’</td>
<td>40</td>
</tr>
<tr>
<td>8.</td>
<td>Play Ground - Nellore</td>
<td></td>
<td></td>
</tr>
<tr>
<td>9.</td>
<td>Kavali – Nellore</td>
<td></td>
<td></td>
</tr>
<tr>
<td>10.</td>
<td>AA Nagar – Kurnool</td>
<td>‘D’</td>
<td>40</td>
</tr>
<tr>
<td>11.</td>
<td>Excise Colony – Warangal</td>
<td></td>
<td></td>
</tr>
<tr>
<td>12.</td>
<td>Fatima Nagar – Warangal</td>
<td></td>
<td></td>
</tr>
<tr>
<td>13.</td>
<td>Fatekhhan Pet – Nellore</td>
<td></td>
<td></td>
</tr>
<tr>
<td>14.</td>
<td>Gudur Mncpl Park – Nellore</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Total :</td>
<td></td>
<td>160</td>
</tr>
</tbody>
</table>
Secondary Data:
Secondary data were collected from the Directorate of Marketing Department, Government of Andhra Pradesh and from the selected sample Rythu Bazars to gain an idea regarding seasonality and trend analysis of prices and arrivals of selected sample vegetables.

Statistical Tools Applied:
The obtained data has analysed using the following statistical tools to draw the necessary conclusions and inferences in the light of obtained results and presenting them in findings form so as to facilitate easy understanding:

1. The spatial and temporal price variations in Tomato, Brinjal, Bhendi and Green Chillies have been analysed by employing the technique of Time Trend Analysis, Seasonal Trend Analysis using the monthly data on average prices collected from four different grades of Rythu Bazars during the period from 2008-09 to 2012-13.

2. Statistical tests like Coefficient of Variation, Coefficient of Variation around Trend Line, Response Factors, Gap Analysis, t-test and Chi-square test have been used to compare the means and variations in the prices and quantity arrivals in different grades of Rythu Bazars. These tests can also be used to test the differences in the opinions of Farmers and Consumers on different issues of Rythu Bazars.

Scope of the Study:
The study of Rythu Bazars at this point of time is essential so that their functioning, based on their objectives can be appraised, defects are analysed, strengths can be identified and remedial action can be taken for making them effective tools for empowering the both farmers and consumers.

The present research study was restricted to:
3. Respondent categories of member farmers, consumers, Estate Officers, Horticulture Officers associated with the selected Rythu Bazars and all the stakeholders from wholesale Markets were also included.

4. Rythu Bazars existing areas of towns and metropolitan cities.

The study is expected to get result in some useful information for arriving at the strategy for the effective function of the Rythu Bazars. The findings and
recommendations as such can be used by administrators, policy makers, scientists, extension workers, Estate Officers and implementing departments and agencies.

**Period of the Study:**

It is observed that there exist a lot of difficulties in collecting recorded and reliable data since its inception of the Rythu Bazars (20th January, 1999), hence, the period of study is confined to five years i.e. from January, 2008 to December, 2013.

**Limitations of the Study:**

A study of this nature is not free from limitations. The following are important limitations of the study:

3. In the absence of database on the subject, the impact of existing marketing conditions on both demand and supply side of marketing of vegetables has been studied, mainly based on their perceptions and the extent they could recall;

4. The study confined only to Rythu Bazars because the basic purpose of the study is the performance and sustainability of the Rythu Bazars.

**Summary of the Findings:**

1. About 60 per cent of the population in the state is depending on agriculture and allied activities. But irrigated agriculture constitutes only about 43.98 per cent of the net sown area in the state.

2. Overall average rainfall received in the state of Andhra Pradesh was only 949.1 mm during the year between 2005-06 and 2011-12. The incidence of rainfall in South West monsoon accounts for more than 60 per cent of the annual rainfall in the state as a whole. During the same period, area, production and productivity were gradually increasing with slight variations in the growth in the same. There was negative correlation between annual average rainfall and area under Horticulture crops with 0.269 per cent followed by negative correlation between annual rainfall and production under horticulture crops with 0.182 per cent whereas it was lease with again negative between average annual rainfall and productivity under Horticulture crops with 0.126 per cent.

3. A large percentage of area under horticultural crops was growing under irrigated area. It is proved that the average ratio between area under horticulture crops and gross area irrigated under agriculture was about 0.3 per
cent over a period of eight years between 2005-06 and 2012-13 and there is a positive correlation between the gross area irrigated under agriculture crops and growth in the production of horticulture crops during the same period. In other words, a large percentage of area under horticulture crops was growing under irrigated area.

4. The average share in the area under horticulture crops was 9.28 per cent during the period between 2005-06 and 2012-13 and on the other hand, the average share in the horticulture production in the state of Andhra Pradesh was about 9.32 per cent. It is concluded that the average share of production under horticulture products in Andhra Pradesh was 10.75 per cent, which is more than the average share of production in India as a whole (7.89 per cent). It is concluded that the average productivity under horticulture products in the state of Andhra Pradesh was more (10.6 Metric Tonnes) than the Indian average (10.55 Metric Tonnes) due to the facilities provided by the state government during the same period.

5. The share of area under vegetable crops in the state of Andhra Pradesh was doubled during the period between 2005-06 and 2012-13 from 3.7 per cent to 7.45 per cent to the India as a whole and the share of vegetable production in the state of Andhra Pradesh was also double during the period of eight years i.e from 2005-06 to 2012-13 with an increment of 3.93 per cent to 7.46 per cent. The average productivity under vegetable crops was noticed higher in the state of Andhra Pradesh with 17.03 MT than national average productivity, where it was noticed only 16.46 Metric Tonners per year. This is due to establishment of Rythu Bazaars in the state of Andhra Pradesh.

6. The percentage share of area and production under vegetable crops in the total horticulture crops in the state of Andhra Pradesh was more or less double from 14.8 per cent to 33.7 per cent and from 24.9 per cent to 50.8 per cent respectively during the period of eight years i.e between 2005-06 and 2012-13. It is concluded that the share of production under vegetable crops was more than the share of area under vegetable crops during the entire period of eight years.

7. The share of area under fruit crops in the state of Andhra Pradesh to the country as a whole was declined from 14.7 per cent to 13.47 per cent during the period between 2005-06 and 2012-13. Highest share of area under fruit
crops was observed in the year 2008-09 with 15.34 per cent whereas lowest share of area under fruit crops was shown in the year 2010-11 with 10.18 per cent. While the share of production under fruit crops was fluctuating between 12.58 per cent and 18.06 per cent during the same period. Highest share of production under fruit crops was observed in the year 2010-11 with 12.58 per cent whereas least share of production under fruit crops was observed in the year 2009-10 with 18.06 per cent.

8. The average share in the area under fruit crops in the state of Andhra Pradesh was about 13.48 per cent and the average share in the production under fruit crops in the state of Andhra Pradesh was about 15.94 per cent during the period between 2005-06 and 2012-13. It is clear that the share of production was more than the share of area under fruit crops in the state of Andhra Pradesh during the period of eight years i.e., from 2005-06 to 2012-13. The Average Productivity under Fruits crops was higher in the state of Andhra Pradesh with 13.4 metric tones per hectare than in the country as a whole, where it was only 11.2 metric tones per hectare during the period between 2005-06 and 2012-13.

9. Fluctuations in the share of area under fruit crops to the horticulture crops have been observed from 32.9 per cent to 48.2 per cent during the period between 2005-06 and 2012-13. While the fluctuation in the share of production under fruit crops to the horticulture crops was observed between 39.7 per cent and 64.1 per cent during the same period. The average share of area under fruit crops to the total horticulture crops was 42.5 per cent whereas the average share of production under fruit crops to the total horticulture crops was 53.4 per cent in the state of Andhra Pradesh during the period between 2005-06 and 2012-13. Andhra Pradesh ranks first in the production of Mango, Chillies, Turmeric, Sweet Lime and Papaya. According to the National Horticulture Mission Action Plan for Andhra Pradesh Mango, Sweet Orange and Banana are the leading fruit crops in Andhra Pradesh and account for over 86 per cent of the area under fruit and over 77 per cent of the total fruit production.

10. The average share of area under floriculture in the state of Andhra Pradesh was about 14.14 per cent to the total of India as a whole during the period between 2005-06 and 2012-13. The average share of production under loose
flowers was about 13.45 per cent whereas it was only 4.67 per cent for cut flowers in the state of Andhra Pradesh during the same period.

11. Average share in the area under floriculture to the total horticulture crops was observed about 1.4 per cent over a period of eight years i.e., from 2005-06 to 2012-13 whereas average area under floriculture in the same period was 28.06 thousand hectares.

12. About 65.8 per cent of the share had been occupied by the area under vegetables, Fruits and Floriculture crops in the total Horticulture crops in the state of Andhra Pradesh over a period of eight years i.e. from 2005-06 to 2012-13. In this, major area of about 42.5 per cent had been occupied by the fruit crops followed by vegetable crops with only 21.9 per cent. But negligible share was occupied by the floriculture with 1.4 per cent of area.

13. The share of area under fruit crops was shifted towards vegetable cultivation during the period between 2009-10 and 2010-11 and vice versa during the period between 2011-12 and 2012-13.

14. Average productivity under tomato crop was higher (19.3 MT) in the state of Andhra Pradesh than country as a whole (17.5 MT). Percentage share of area under Tomato crop in the state of Andhra Pradesh to the India as a whole was almost doubled from 15.42 per cent to 33.16 per cent) over a period of eight years i.e between 2005-06 and 2011-12. The correlation between growth rate in the area and production under tomato crop was negative in India as a whole in the years 2006-07 and 2010-11 whereas it was positive in the rest of the years. Positive correlation between growth rate in the area and production under tomato crop was appeared in the year 2010-11 in the state of Andhra Pradesh.

15. Average share of area under tomato cultivation in the total vegetables area was about 32.62 per cent where as the average share of production under tomato cultivation in the total vegetables area was about 36.96 per cent in the state of Andhra Pradesh over a period of seven years from 2005-06 to 2011-12. Average productivity under vegetable crops was less than (16.94 per cent) the average productivity (19.28 per cent) under tomato crops in the state of Andhra Pradesh during the same period.
16. Average productivity under Brinjal cultivation was higher in the state of Andhra Pradesh (17 per cent) than in India as a whole (20 MT per hectare) over a period of seven years between 2005-06 and 2011-12.

17. The average monthly arrival of Tomato, Brinjal, Bhendi and Green Chillies were noticed highest in Erragadda-Hyderabad and lowest in C Camp Rythu Bazaars in A Grade Rythu Bazaar in A Grade Rythu Bazaar. The same was noticed highest in Quarry Centre – Rajahmundry and the average monthly arrival of Tomato and Brinjal were noticed lowest in Arts College – Rajahmundry where Bhendi and Green Chillies were noticed lowest in SBI Colony – Rajahmundry in B Grade Rythu Bazaar. The average monthly arrival of Tomato was noticed highest in Kavali – Nellore, Brinjal and Bhendi were noticed highest in Play Ground – Nellore and Green Chillies were noticed highest in Anantapuramu Rythu Bazaar whereas Tomato and Brinjal were noticed lowest in Anantapuramu Rythu Bazaar, Brinjal was noticed lowest in Kothapeta – Kurnool Rythu Bazaar, Green Chillies were noticed lowest in Play Ground Nellore in C Grade Rythu Bazaars. The average monthly arrival of Tomato and Bhendi were noticed highest in Gudur Municipal Park – Nellore, Brinjal was noticed highest in Excise Colony – Warangal and Green Chillies were noticed highest in AA Nagar – Kurnool Rythu Bazaars whereas lowest of Tomato, Bhendi and Green Chillies were noticed in Fatima Nagar – Nellore and lowest of Brinjal was noticed in Fatehkhan Pet RB – Warangal in D Grade Rythu Bazaars.

18. The average monthly arrival of total vegetables was noticed highest in Erragadda Rythu Bazaar with 55,595 quintals in ‘A’ Grade Rythu Bazaar, Quarry Centre-Rajahmundry in B Grade Rythu Bazaar with 6,981 quintals, Kavali-Nellore Rythu Bazaar in C Grade Rythu Bazaar with 3,559 quintals and Gudur Municipal Park Rythu Bazaar with 2,295 quintals in D Grade Rythu Bazaar. Against this, the average monthly arrival of total vegetables was noticed lowest in C Camp Rythu Bazaar with 15,276 quintals, SBI Colony – Rajahmundry Rythu Bazaar with 5,682 quintals in B Grade Rythu Bazaar, Play Ground – Nellore RB with 2,272 quintals in C Grade RB and Excise Colony – Warangal RB with 1,191 quintals in D Grade Rythu Bazaar.

19. The extent of variability in quantity arrivals of Tomato produce both in terms of coefficient of variation and co-efficient of variation around trend line is
highest in Erragadda – Hyderabad Rythu Bazaar and lowest in C Camp Rythu Bazaar and the same in the case of Brinjal and Green Chillies were noticed highest in C Camp RB and lowest in Yerragadda Rythu Bazaar found lowest in C Camp RB in A Grade Rythu Bazaar whereas in the case of Bhendi, the same was noticed in terms of Coefficient of Variation highest in C Camp Rythu Bazaar lowest in Erragadda Rythu Bazaar as against this, in terms of Coefficient of Variation around Trend Line was noticed highest in Yerragadda Rythu Bazaar and lowest in C Camp Rythu Bazaar in A Grade Rythu Bazaars.

20. The extent of variability in quantity arrivals of Tomato, Brinjal and Bhendi crops was noticed highest both in terms of Coefficient of Variation and Coefficient of Variation around Trend Line in Quarry Centre – Rajahmundry and in the case of Green Chillies it was noticed highest in terms of Coefficient of Variation in Quarry Centre – Rajahmundry and highest in terms of CVTL in Arts College – Rajahmundry. As against this, the extent of variability in quantity arrivals of Tomato, Brinjal and Green Chillies in terms of Coefficient of Variation was least in Arts College – Rajahmundry and in terms of CVTL was least in SBI Colony – Rajahmundry whereas in the case of Bhendi both in terms of CV and CVTL it was least in Arts College, Rajahmundry in B Grade Rythu Bazaars.

21. The extent of variability in quantity arrivals of Tomato, Brinjal and Bhendi crops both in terms of CV and CVTL it was noticed highest in Anantapuramu Rythu Bazaar and least in terms of CV in Kothapete – Kurnool Rythu Bazaar in terms of CVTL in Kavali-Nellore Rythu Bazaar whereas the same was noticed in the case of Green Chillies highest both in terms of CV and CVTL highest in Play Ground – Nellore least in Kavali – Nellore in overall C Grade Rythu Bazaars.

22. The extent of variability in quantity arrivals of Tomato, Brinjal, Bhendi and Green Chillies in terms of Coefficient of various was noticed highest in Fatehkhan Pet – Nellore whereas least in Excise Colony – Warangal; in terms of Coefficient of Variation around Trend Line was noticed highest in Fatehkhan pet except in case of Tomato crop, which was noticed highest in AA Nagar – Kurnool, whereas the same was noticed least in Gudur Municipal Park – Nellore in overall D Grade Rythu Bazaars.
23. The average monthly arrivals of tomato, Brinjal, Bhendi and Green Chillies were noticed lowest in the month of February in all Grades of Rythu Bazaars except Tomato, which was noticed in the month of June, in A Grade Rythu Bazaars. The average monthly arrivals of Tomato was noticed highest in the month of March in A and C Grade Rythu Bazaars, May in B Grade Rythu Bazaar whereas it was noticed July in D Grade Rythu Bazaar. The average monthly arrivals of Brinjal were noticed highest in the month of June in all Grades of Rythu Bazaars. The average monthly arrivals of Bhendi and Green Chillies were noticed highest in the month of July in all Grades of Rythu Bazaars except Green Chillies, which was noticed in the month of November, in A Grade Rythu Bazaar.

24. The variation of monthly arrivals of Tomato, Brinjal, Bhendi and Green Chillies in terms of Coefficient of Variations was noticed highest in the month of February followed by January in all Grades of Rythu Bazaars except in the case of Green Chillies, which was noticed in the month of February followed by September, in C Grade Rythu Bazaars. The variation of monthly arrivals of Tomato, Brinjal and Bhendi in terms of Co-efficient of Variation around Trend Line was noticed highest in the month of February followed by January in all grades of Rythu Bazaars whereas in the case of C Grade Rythu Bazaars Tomatoes were noticed highest in the month of February followed by May, Brinjal in the month of September followed by May, Bhendi in the month of November followed by July whereas Green Chillies in the month of September followed by June. It is concluded that fluctuations in quantity arrivals in terms of Coefficient of Variation around Trend line during the period between 2008 and 2013 was highest especially in C Grade Rythu Bazaars.

25. The mean difference of Rythu Bazaar Price for Tomato crop between June (noticed highest rate) and February (noticed lowest rate) months during a year was noticed highest in A Grade Rythu Bazaar with Rs.13.63/- and lowest in B Grade Rythu Bazaars with only Rs.10.63/-. The mean price difference of Brinjal among different months during a year was noticed highest in D Grade Rythu Bazaar with Rs.8.60/- whereas it was noticed least in A Grade Rythu Bazaars with only Rs.6.82/- and highest rate was noticed in the month of November in all Grades of Rythu Bazaars whereas it was noticed lowest rate
in the month of February in all grades of Rythu Bazaars except in B Grade Rythu Bazaar, where it was noticed in the month of March only. In the case of Bhendi the same was noticed highest in B Grade Rythu Bazaar with Rs.10.37/- where as it was noticed least in D Grade Rythu Bazaar with only Rs.5.28/- and the highest rate was noticed for Bhendi crop in the month of December in all Grades of Rythu Bazaars whereas it was noticed least in the month of September except in B Grade Rythu Bazaars, where it was noticed in the month of May month. In the case of Green Chillies the same was noticed highest in A Grade Rythu Bazaar with Rs.13.05/- and lowest in D Grade Rythu Bazaar with Rs.9.49/- and the highest rate was noticed in the month of June in all grades of Rythu Bazaars whereas it was noticed lowest rate in the month of December in both A and D Grade Rythu Bazaars, February in B Grade Rythu Bazaar and March in C Grade Rythu Bazaar.

26. The variations in the Rythu Bazaar prices of Tomato Crop in terms of Coefficient of Variation and Coefficient of Variation around trend line was noticed highest in the month of January and July respectively in A and D Grade Rythu Bazaars and both were noticed highest in the month of June in B Grade Rythu Bazaar May in C Grade Rythu Bazaars.

27. The variations in the Rythu Bazaar prices of Brinjal crop in terms of both Coefficient of Variation and Coefficient of Variation around Trend Line was noticed highest in the month of August in A, C and D Grade Rythu Bazaars whereas the same was noticed highest in the month of January in B Grade Rythu Bazaars.

28. The variations in the Rythu Bazaar prices of Bhendi crop in terms of Coefficient of Variation was noticed highest in the month of March in all grades of Rythu Bazaars whereas the same was noticed highest in terms of Coefficient of Variation around Trend Line in the month of January in A Grade Rythu Bazaar and February in B Grade Rythu Bazaar and March in both C and D Grade Rythu Bazaars.

29. It is significant to note that the variations in the Rythu Bazaar prices of Green Chillies crop in terms of both Coefficient of Variation and Coefficient of Variation around Trend Line was noticed highest in the month of August in all Grades of Rythu Bazaars.
30. The ratio of women farmer respondents to the male was higher in ‘A’ Grade Rythu Bazaar with 0.74 per cent followed by C Grade Rythu Bazaar with 0.54 per cent, B Grade Rythu Bazaar with 0.29 per cent whereas least ratio of female was noticed in D Grade Rythu Bazaars.

31. The illiterate ratio was noticed highest in D Grade Rythu Bazaar with 0.60 per cent followed by C Grade Rythu Bazaar with 0.43 per cent, B Grade Rythu Bazaar with 0.25 per cent whereas it was noticed least in A Grade Rythu Bazar. It is proved that higher the literacy farmer sellers were able to market their product efficiently than others and they could able to understand the up and downs in the marketing of both supply and demand side fluctuations.

32. Age group of below 25 years farmer respondents were identified highest in B Grade Rythu Bazaar with 27.5 per cent followed by A Grade Rythu Bazaar with 22.5 per cent, C Grade Rythu Bazaar with 10 per cent whereas it was found least in D Grade Rythu Bazaars with only 7.5 per cent. The group between 30 to 45 years farmer sellers could able to change the marketing situations to their favour because of their adventurous.

33. Least percentage of joint families were noticed in D Grade Rythu Bazaars, where none of their family members were accompanying the farmer sellers in their respective households, followed by C Grade Rythu Bazaar with 57.5 per cent of joint families, B Grade Rythu Bazaars with 70 per cent whereas A Grade Rythu Bazaar was having large number of joint families either supported by the elders or staying with above 14 years of age group children in the family. It is also proved from the field study that still it is the family activity rather than a business activity. In other words, due to restrictions prevailing more in the A and B Grade Rythu Bazaars, vegetable growers were selling their produce on their own rather than selling it out to middlemen, who in turn come to Rythu Bazaar and sell their product. A large number of middlemen were identified in C and D Grade Rythu Bazaars, where the original ID holder sells his product to the middlemen along with providing his / her ID card.

34. The size of the family having below three members in the respondent farmer households were noticed highest in C Grade Rythu Bazaars with 27.5 per cent followed by D Grade Rythu Bazaars with 20 per cent whereas it was very less in both B and A Grade Rythu Bazaars, where the size of the family was 7.5
per cent and 5 per cent respectively. The age group of above 60 years were getting the vegetable produce from their children growing at villages and selling it in the Rythu Bazaars. In other words, the old age people were completely turned to marketing activity of vegetable produce as they were getting free entry / space for selling their produce, though they were separated from the family.

35. The least number of persons (two members) depending on Agriculture and its related activity was noticed highest in D Grade Rythu Bazaar with 67.5 per cent respondent farmer seller families whereas it was noticed least in A Grade Rythu Bazaar with 40 per cent respondent farmer seller families. It is observed from the field study that in A Grade Rythu Bazaars most of the farmer respondents were having two persons, who are depending on Agriculture and its related activity, were able to maintain both agriculture and marketing activity very efficiently because one person works in the agriculture field and rest of another person is taking the vegetable produce to the Market and sells his whole quantity of produce within two to three hours and left out to his home and again involves in the agriculture activity. On the other hand, in D Grade Rythu Bazaars, earlier the elders who were engaged in the marketing of vegetable produce activity and their children were engaged in the agriculture field activity in the village. After setting up of Rythu Bazaars, it was very difficult for them to stay since morning 6\(^{0}\) Clock to Evening 8\(^{0}\) Clock and hence they permanently settled in the nearby respective Rythu Bazaar towns / cities and they were not at all engaging in the agriculture activity but they buy the vegetable produce from their children in the field.

36. It is significant to note that about 52.5 per cent of the farmer respondents were growing vegetables in the dry land areas whereas 47.5 per cent of the farmer respondents were growing vegetables in the irrigated lands among different grades of Rythu Bazaar areas. One of the reasons behind the supply of sufficient vegetables in the A Grade Rythu Bazaars throughout the year was having irrigation facilities for the farmers and vice versa.

37. Small farmers were noticed highest in B Grade Rythu Bazaars with 20 per cent followed by A Grade Rythu Bazaars with 17.5 per cent whereas in rest of two C and D Grade Rythu Bazaars having the small farmers were with only 7.5 per cent and 5 per cent respectively. It is observed from the field study that
the officials were entering the farmer details only for vegetable cultivation area but they were not considering the whole land.

38. The average land under vegetable cultivation was highest in A Grade Rythu Bazaars with 1.43 acres of land followed by 0.98 acres in B Grade Rythu Bazaars, 0.87 acres of land in C Grade Rythu Bazaars whereas it was noticed very least in D Grade Rythu Bazaars with only 0.73 acres of land. On the other hand, the ratio of land under irrigation facilities was highest in A Grade Rythu Bazaars with 0.54 per cent followed by B Grade Rythu Bazaars with 0.36 per cent, C Grade Rythu Bazaars with 0.33 per cent whereas it was noticed least in D Grade Rythu Bazaars with only 0.22 ratio of land to the total land.

39. Rythu Bazaar services were being utilized by the Farmers since its inception / establishment of the programme in their respective place was noticed highest in D Grade Rythu Bazaars with 57.5 per cent of the farmers whereas it was noticed least in both A and B Grade Rythu Bazaars with only 27.5 per cent of the farmers. The variation in the utilization of services of Rythu Bazaars differs from A Grade to D Grade due to availability space in the Rythu Bazaars.

40. Vegetables were being sold at Rythu Bazaars for 4 to 5 days in a week was noticed highest in both A and B Grade Rythu Bazaars with 35 per cent followed by D Grade Rythu Bazaars with 30 per cent whereas it was noticed lowest in C Grade Rythu Bazaar with only 25 per cent of the farmers. Most of the farmers from Grade A were satisfied with selling the vegetable produce for 4 to 5 days because of getting sufficient profit from selling the vegetable produce in 3 to 4 days.

41. Farmer sellers staying eight and above hours to sell their whole produce at Rythu Bazaars was noticed highest in D Grade Rythu Bazaars with 72.5 per cent of farmer sellers whereas staying minimum of 2 – 3 hours a day to sell his / her whole produce at Rythu Bazaar was noticed highest in A Grade Rythu Bazaars with 55 per cent of farmer sellers followed by B Grade Rythu Bazaars with only 12.5 per cent.

42. It is observed from the field study that very few farmers, who were not willing to stay at Rythu Bazaars for long time, were selling below 100 Kgs in A Grade Rythu Bazaars and rest of the produce is being sold at wholesale market and
on the other hand, no one farmer was able to sell more than 300 Kgs of vegetable produce at D Grade Rythu Bazaars in the state as a whole.

43. It is observed from the table that N numbers of varieties are available and at the same time large numbers of farmer sellers are also available at A Grade Rythu Bazaars. On other hand, only large numbers of farmer sellers were bringing the large number of varieties so that consumers were satisfying with the availability of vegetable produce in at B Grade Rythu Bazaars. Last but not the least, it is significant to note that least produce, less number of varieties were available in D Grade Rythu Bazaars so that demand for the Rythu Bazaar produce is very less followed by C Grade Rythu Bazaars.

44. About 41.25 per cent of the respondent’s vegetable excess produce was being sold at Whole Sale Markets followed by 30 per cent of the respondents’ vegetable excess produce was being sold to the Local marketers and equal percentage of about 3.75 per cent respondents’ vegetable excess produce was being sold at various institutions like Hostels, Hotels etc and the equal percentage of vegetable produce was being thrown out in the Rythu Bazaars itself. Only 21.25 per cent of the respondents were saying that there was no excess produce brought to the Rythu Bazaars in the study area.

45. Individual Rented vehicles was being used as a mode of transport for bringing the vegetable produce to the Rythu Bazaar by the majority farmer sellers with 35 per cent followed by Rented vehicles combined with a group by 25.63 per cent of the farmer sellers, own transportation by 21.88 per cent of the farmer sellers whereas it was noticed Government Vehicle like RTC Bus was being used by 17.5 per cent of the farmer sellers in the state as a whole.

46. Average Cost incurred by the farmer to bring one quintal vegetable produce to the Rythu Bazaar was highest for D Grade Rythu Bazaars followed by C, B and A Grade Rythu Bazaars. In this, highest share of about 42.01 per cent has been gone to staying expenses – during stay at Rythu Bazaars one has to incur some amount especially for tea, snacks, meals, other miscellaneous expenses. Second place goes to Transportation charges which accounts 35.07 per cent in the total marketing cost to bring one quintal vegetable produce to the Rythu Bazaars. Third place goes to loading and unloading charges with 8.68 per cent in the total marketing cost of farmer seller.
47. Highest percentage of farmer sellers were spending on Marketing the per quintal vegetable produce to the Rythu Bazaars was Rs.50/- to Rs.75/- followed by spending Rs.75/- to Rs.100/-, Rs.25/- to Rs.50/- whereas only 12.5 per cent of the farmer sellers were spending least amount of below Rs.25/-.

48. Majority of farmer sellers (38.75 per cent) were getting information on prices and demand for the product from Media like ratio, television etc. followed by 27.5 per cent of the farmer sellers were getting the information by spending some amount through mobile channel or by spending time through contacting the person directly, 26.88 per cent of the farmer sellers were getting information from co-farmers whereas only 6.88 per cent of the farmer sellers were stating that officials were giving the information one day before especially on prices and demand of the product.

49. About 63.75 per cent of the farmer respondents agreed that training / awareness programme was not arranged either in the Rythu Bazaars or at the District Head quarters of their respective Rythu Bazaar areas. As against this, about 15.63 per cent of the farmer respondents were not aware of the Training programme to be conducted on different activities like Cooperative management, Marketing Management, Analysis of Demand and Price forecasting methods etc.

50. Majority of consumer respondents were willing to visit the Rythu Bazaars regularly with 52.5 per cent followed by rarely with 25 per cent whereas only 22.5 per cent of the consumer respondents were willing to visit the Rythu Bazaars occasionally.

51. House wives come to the market generally between 10 AM and 12 Noon and 2 PM and 5 PM in the evening time, elders come to the Rythu Bazaars generally at morning / evening walking time, male heads generally visit the Rythu Bazaars at before and after office timings. Majority in all grades of Rythu Bazaars, vegetables being brought from the Rythu Bazaars was by house wives with 33.75 per cent followed by male heads with 30.63 per cent, Elders in the family with 21.88 per cent whereas it was least by Children (5 per cent) and workers in the family (8.75 per cent).

52. High income group getting Rs.10,000/- and above per month per family for the consumer respondents were noticed highest in D Grade Rythu Bazaars
with 45 per cent followed by C Grade Rythu Bazaars with only 5 per cent whereas the same income group was appeared in A and B Grade Rythu Bazaars. It is observed from field study that most of the D Grade Rythu Bazaars had been established in the class and decent remote areas and the people living in these areas was higher income group only and hence this group could get the vegetables from the other markets, where fresh and all varieties of vegetables are available.

53. In the premises of D and C Grade Rythu Bazaars, most of the families rich in nature and also having more earning members in a small size family and hence, the made servants were attending Rythu Bazaar in these areas. It is in this case, once more number of varieties appears to be less and less quality vegetables in these Rythu Bazaars then immediately these maid servants were attending the nearest Market areas. Hence, D Grade Rythu Bazaars were not having speedy improvement / growth.

54. Satisfied with present system of price fixation method farmer sellers were noticed highest in A Grade Rythu bazaars with 37.5 per cent of the farmer sellers followed by 32.5 per cent of the farmer sellers in C Grade Rythu Bazaars, B Grade Rythu Bazaars with 30 per cent farmer sellers whereas it was noticed least in D Grade Rythu Bazaars with only 22.5 per cent of the farmer sellers.

55. Estate Officer’s services were moderately useful opined by majority of the farmer respondents of about 35.63 per cent followed by 28.13 per cent of the farmer respondents were stating that the services of Estate Officer were not at all useful for either Rythu Bazaar or Farmer sellers of the Rythu Bazaars, about 26.88 per cent of the farmer respondents’ opinion that the services of Estate Officer was somewhat useful for both farmers and consumers whereas only 9.38 per cent of the farmer respondents were stating that the services of Estate Officer was very useful for both Farmers and Consumers especially in the case of dispute between the farmer and seller and consumers.

56. Horticulture Officer Services were not at all useful for the sake of farmer sellers noticed highest in C Grade Rythu Bazaars followed by D Grade Rythu Bazaars with 5 per cent of the farmer sellers, A Grade Rythu Bazaars with 2.5 per cent of the farmer sellers whereas it was negligible in the case of B Grade Rythu Bazaar farmer sellers.
57. Majority of farmer sellers of all Rythu Bazaars were dissatisfied with the present system of information dissemination and complained that unless farmer comes to the Rythu Bazaars the information does not provide to the farmer sellers by marketing authorities according to them even in Rythu Bazaars also the information on fluctuations of prices of the particular product is not being addressed by the market authorities.

58. About 35.63 per cent of the farmer respondents were moderately dissatisfied with the present provision of public transportation arrangements to the Rythu Bazaars for the sake of farmer sellers followed by 26.88 per cent of the farmer respondents were dissatisfied with the present provision of public transportation facilities arranged by the Government / Market authorities, 20.63 per cent of the farmer respondents were moderately satisfied with the present provision of public transportation arrangements whereas it was very low (about 16.88 per cent) in the case of satisfied farmer respondents on present provision of public transportation arrangements.

59. Farmers expressing that the present ongoing training programmes were not at all useful by majority of farmer respondents with 78.13 per cent of the farmer sellers followed by it was less useful by 20 per cent of the farmer sellers, 1.88 per cent of the farmers were expressing that the present ongoing training programmes were moderately useful for them whereas none of the farmer seller was expressing that it was very useful for them.

60. About 29.38 per cent of the farmer sellers expressed their dissatisfaction towards providing the banking facilities for the farmer sellers at the Rythu Bazaars. Among these, majority of farmer sellers were from D Grade Rythu Bazaars whereas it was noticed least by B Grade Rythu Bazaar farmer sellers with only 17.5 per cent.

61. Cold storage facility is very much useful for farmer especially vegetable growers so that they can preserve the vegetables for at least few days when demand is low and sell their produce when demand is very high thereby get remunerative price for them. Unfortunately, no Rythu Bazaars is having the cold storage facility among the sampled Rythu Bazaars in the state of Andhra Pradesh.
62. About 62.5 per cent of the farmer respondents were not satisfied with the present maintenance of the sanitations especially B Grade and D Grade Rythu Bazaar farmer respondents.

63. Majority of about 53.13 per cent of the farmer sellers were satisfied with the provision of drinking water facility at the Rythu Bazaars premises whereas rest of 38.75 per cent of farmer sellers were not satisfied with the provision of drinking water facility for the farmer sellers in the Rythu bazaars.

64. Majority of farmer respondents were not satisfied with the present provision of canteen facility in different grades of Rythu Bazaars. It was high in the case D Grade Rythu Bazaar farmer sellers (72.5 per cent) whereas it was low in the case of A Grade Rythu Bazaar farmer sellers because in A Grade Rythu bazaars canteen services are available in most of the centres.

65. About 28.13 per cent of the farmer sellers were not satisfied with present system of stall allocation pattern and among them, highest were from A Grade Rythu Bazaars (45 per cent) followed by B Grade Rythu Bazaars (40 per cent) whereas it was noticed low in the case of D Grade Rythu bazaars because all D Grade Rythu Bazaars were very established with number of stalls available.

66. About 76.25 per cent of the farmer sellers were not satisfied with the rest room facility available at Rythu Bazaars. It was highest in the case of B Grade Rythu Bazaars followed by C and D Grade Rythu Bazaars whereas it was not necessary in the case of D Grade Rythu Bazaars.

67. About 40.63 per cent of the consumer respondents were satisfied with the parking place provided by the Rythu Bazaar authorities in the nearby premises followed by 30 per cent of the consumer respondents were moderately satisfied with the place provided for the parking in the premises whereas 29.38 per cent of consumer respondents were not satisfied with the parking place provided by the marketing authorities.

68. Majority of the consumer respondents were moderately satisfied with the display of boards at proper places with 40.63 per cent of consumer respondents followed by 32.5 per cent of the consumer respondents were satisfied with the display the same whereas 26.88 per cent of the consumer respondents were not satisfied with display of boards at proper places in the Rythu Bazaars among the different Grades of Rythu Bazaars in the state of Andhra Pradesh.
69. About 33.75 per cent of the consumers were saying that there are no middlemen in the Rythu Bazaar as per their knowledge whereas about 34.38 per cent of consumers were complaining that still there is some middlemen selling the vegetables in the Rythu Bazaar premises and vice versa.

70. Consumers were moderately satisfied with maintenance of wastage noticed highest with 43.75 per cent of the consumers followed by 33.75 per cent of the consumer respondents were satisfied with the maintenance of wastage in the Rythu Bazaars. On the other hand, consumers were not satisfied with the maintenance of wastage in the Rythu bazaars.

71. About 48.13 per cent of the consumer respondents were satisfied with the availability of quality / fresh vegetable produce in the Rythu Bazaars followed by 30.63 per cent of the consumer respondents were moderately satisfied with the availability of quality / fresh vegetable produce in the Rythu Bazaars whereas only 21.25 per cent of the consumer respondents were not satisfied with the availability of quality / fresh vegetable produce in the Rythu Bazaars.

72. Majority of A Grade Rythu Bazaar consumers were suffering with the lack of change / tiny coins with about 67.5 per cent followed by 50 per cent of the consumers in both C and D Grade Rythu Bazaars with 50 per cent whereas it was low in C Grade Rythu Bazaars with only 42.5 per cent because already in these Rythu Bazaars Estate Officers were taking initiations to get the change / tiny coins for the benefit of both consumers and farmer sellers.

73. Majority of about 40.63 per cent of the consumer respondents were moderately satisfied with availability of graded / all varieties of vegetables followed by 37.5 per cent of consumers satisfied with availability of the same whereas it was least in the case of consumers not satisfied with the same. Consumers not satisfied with availability of graded / all varieties of vegetables were noticed highest in D Grade Rythu Bazaars with 57.5 per cent whereas it was lowest in B Grade Rythu Bazaars with only 2.5 per cent and vice versa.

74. Consumers satisfied with consistency of availability of vegetable produce was noticed highest in A Grade Rythu bazaars with 52.5 per cent followed by B, C and D Grades of Rythu Bazaar with 42.5 %, 30 % and 22.5 per cent respectively and vice versa.
Testing of Hypotheses:

The study adopted the statistical tools to test the Hypotheses especially prices of Rythu Bazaars, Local Market Rates and its difference for selected sample vegetables and its influence on quantity arrivals of vegetables in selected Rythu Bazaars by collecting secondary data sources from from Directorate of Marketing, Hyderabad over a period of eight years i.e., from 2005-06 to 2012-13. The average monthly arrivals of all varieties of vegetables were noticed with higher variations among different grades of Rythu Bazaars and in different seasons / time periods. It is also significant to note that the prices of Rythu Bazaars, Prices of Local Markets and variations in the price differences between Wholesale Markets – Rythu Bazaar Markets and Retail Market – Rythu Bazaar Market influence the quantity arrivals of Rythu Bazaars at 10 per cent level only whereas other factors need to be identified in the proposed further study.

The social factors like illiteracy ratio, Age, size of the family and joint family, Agriculture dependent ratio, awareness on marketing management were severely affecting the marketing efficiency of individual farmer sellers at Rythu Bazaars. On the other hand, economic factors like small size of land holding, non irrigation facilities, and bulkiness of the product sold at Rythu Bazaars, number of hours staying in Rythu Bazaars, location of Rythu Bazaars were affecting the marketing efficiency of Rythu Bazaars.

It is significant to note that lack of innovative marketing strategies like convergence activities to promote the sales, lack of banking and credit facilities, lack of cold storage facility were severely influencing the Rythu Bazaars especially A and B Grade Rythu Bazaars.

It is heartening to state that heavy transportation costs, non availability of fresh and quality vegetables with all varieties including graded vegetables, inconsistency of availability of vegetable produce have influenced the marketing efficiency of Rythu Bazaars especially C and D Grade Rythu Bazaars.

Summary:

About 60 per cent of the population in the state is depending on agriculture and allied activities. But irrigated agriculture constitutes only about 43.98 per cent of the net sown area in the state. Overall average annual rainfall received in the state of Andhra Pradesh was only 949.1 mm during the year between 2005-06 and 2011-12. The incidence of rainfall in the South West monsoon accounts for more than 60 per cent of the annual rainfall in the state as a whole. It is observed that there is negative
correlation between rainfall and area, production and productivity under horticultural crops because a majority of the horticultural crops raised under irrigation facilities rather than under rainfed conditions. The average area under Horticulture crops was about 1649.7 thousand hectares and it was increased to 2308.7 thousand hectares during the period between 2005—12 accounting for 10.75 per cent of total area brought under horticultural crops in India. Productivity under horticultural crops was more or less same in both at the national and at the state of Andhra Pradesh.

The area under vegetable crops was about 266.9 thousand hectares in the state of Andhra Pradesh and accounting for 3.7 per cent in India. Further, it was increased to 686.1 thousand hectares (7.45 per cent share in India as a whole) over a period of eight years from 2005-06 to 2012-13. The share of area under vegetable crops in the state of Andhra Pradesh compared to the India as a whole has doubled during the the same period. The average productivity under vegetable crops was noticed higher in the state of Andhra Pradesh with 17.03 MT than the national average productivity of 16.46 Metric Tonnes per year. This is due to establishment of Rythu Bazaars in the state of Andhra Pradesh. The percentage share of area and production under vegetable crops in the total horticulture crops in the state of Andhra Pradesh has doubled from 14.8 per cent to 33.7 per cent and from 24.9 per cent to 50.8 per cent respectively during the period of eight years i.e between 2005-06 and 2012-13.

However, the share of area under fruit crops in the state of Andhra Pradesh when compared to the country has declined from 14.7 per cent to 13.47 per cent during the period between 2005-06 and 2012-13 respectively while the share of production under fruit crops has fluctuated between 12.58 per cent and 18.06 per cent during the same period. The Average Productivity under Fruits crops was higher in the state of Andhra Pradesh with 13.4 metric tonnes per hectare compared to India which showed at 11.2 metric tones per hectare during the period between 2005-06 and 2012-13.

The state of Andhra Pradesh, an average, accounts for 14.14 land area brought under floriculture in India during the period between 2005-06 and 2012-13. The average share of production under loose flowers was about 13.45 per cent whereas it was only 4.67 per cent for cut flowers in the state of Andhra Pradesh during the same period. Average share in the area under floriculture to the total horticulture crops was observed about 1.4 per cent over a period of eight years i.e., from 2005-06 to 2012-13.
whereas average area under floriculture in the same period was 28.06 thousand hectares. It is pertinent to observe that there exists scope to further increase the area under horticultural crops by providing marketing facilities with remunerative prices.

The value of Coefficient of Determination ($R^2$) indicate that the price factors influences the variation in Bhendi quantity arrivals to the Fatehkhanpet – Nellore, Play Ground – Nellore, Anantapuramu, Quarry Centre– Rajahmundry, AA Nagar – Kurnool, Fatima Nagar – Warangal and Excise Colony, Warangal Rythu Bazaars.

The value of Coefficient of Determination ($R^2$) indicates that the variation in quantity arrivals of Tomato has been influenced price factors at Erragadda – Hyderabad, Kavali – Nellore, Fatima Nagar – Warangal, SBI Colony – Rajahmundry, Play Ground – Nellore, C Camp– Kurnool, Fatehkhan Pet – Nellore Rythu Bazaars.

It is inferred from the data that the price factors included in the model have negligible influence on the arrivals in most of the Rythu Bazaars, except Play Ground – Nellore, Fatehkhan Pet – Nellore, Kavali – Nellore, Quarry Centre – Rajahmundry, Fatima Nagar – Warangal and AA Nagar – Kurnool.

The value of Coefficient of Determination ($R^2$) indicates that the variation in quantity arrivals of Green Chililies has been influenced by price factors at Fatehkhan Pet – Nellore, Fatima Nagar – Warangal, Play Ground – Nellore, Excise Colony - Warangal, Quarry Centre – Rajahmundry, Kavali – Nellore, Arts College – Rajahmundry, AA Nagar – Kurnool, Erragadda – Hyderabad, SBI Colony – Rajahmundry. It is concluded that the non price factors have high influence on market arrivals than price factors in the case of Green Chilies in Rythu Bazaars.

The social factors like illiteracy ratio, Age, size of the family and joint family, Agriculture dependent ratio, awareness on Marketing Management have influenced the marketing efficiency of Rythu Bazaars irrespective of Grades. On the other hand, the economic factors like size of land holding, irrigation facilities, experience of famers in the selling activity, quantity of vegetable produce sold at Rythu Bazaars, number of hours staying at Rythu Bazaars to sell the produce by the farmer sellers, number of varieties grown, transportation facilities arranged by the market / Government authorities, average transportation cost, staying expenses, bribe, loading and unloading charges, market information on prices and demand at various places, regularity of visits, time of the demand, location of Rythu Bazaars have been influencing the marketing efficiency of Rythu Bazaars among different Grades of Rythu Bazaars.
It is significant to note that prices at Rythu Bazaars, present system of information dissemination on prices and demand for the product, Banking and credit facilities, cold storage facility, maintenance of sanitation facilities, drinking water facility, canteen facility, parking place, rest room facility, convergence activities to promote the sales were influencing the performance of Rythu Bazaars especially A and B Grade Rythu Bazaars. On the other hand, Public Transportation facility, Entry of Middlemen, availability of fresh and quality vegetables with all varieties including graded vegetables, consistency of availability of vegetable produce have cost their influence in determining the performance of C and D Grade Rythu Bazaars.

**Conclusion:**

Establishment of Rythu Bazaars has positively impacted both farmers and consumers in the state of Andhra Pradesh. They not only improved the living standards of the small and medium farmers who cultivated fruits and vegetables, but also consumption levels of quality vegetables and fruits which were sold at relatively cheaper prices in the Rythu Bazaars especially in A Grade Rythu Bazaars. It is concluded that lack of drip irrigation facilities, non usage of certified seed varieties, organic fertilizers, mixed crops were affecting the consistence of production and productivity of horticulture products in the state as a whole and the provisions which would lead to price stabilisation of both vegetables and fruits. It is also concluded from the study that effective utilisation of Estate Officer and Horticulture Services, Formation of Cooperative Societies, Cold Storage facility, Credit facilities, Convergence activities, Self Sustainability measures may further boost up the marketing efficiency of Rythu Bazaars especially, A and B Grade Rythu Bazaars. Some facilities such as provision of Public Transportation facility, Elimination of Middlemen, availability of fresh and quality vegetables with all varieties including graded vegetables, consistency of availability of vegetable produce may increase the efficiency of Rythu Bazaars especially C and D Grade Rythu Bazaars.

**Suggestions:**

- Farmer sellers should have three options for bringing the vegetables to the Rythu Bazaars with nominal transportation cost – 1. Public Transportation facility; 2. Credit facility to purchase Own Vehicles / two / three wheers; and 3. Transportation facilities under the supervision of Rythu Bazaar authorities: these vehicles may also be utilized as a Mobile Rythu Bazaars.
- The Andhra Pradesh State Road Transportation Corporation may arrange night haulting buses to facilitate transport for such those villages where a large number of farmers engaged in raising horticultural crops to be marketed in the Rythu Bazaars. It goes a long way in the sustained supply of horticultural crops in Rythu Bazaars on a regular daily basis.

- Cold storage tiny units should be provided to each and every farmer seller with subsidized price to preserve the vegetables of at-least 50 to 100 Kgs.

- Estate Officer Services may be extended to marketing management and to take the Rythu Bazaars towards Self-Sufficiency level by utilizing and mobilizing the own resources apart from maintenance of Rythu Bazaars to sustain the Rythu Bazaars.

- Horticulture Officer Services may be utilized properly by engaging one Horticulture Officer at each Rythu Bazaar to create awareness among farmer sellers on demand and price of the produce at various levels of production to sort out the problem of fluctuations in prices and supply of produce, apart from educating farmers to grow various vegetables adopting new thechnologies to increase the productivity levels.

- Drip irrigation facilities should be provided with subsidized price to all the farmer sellers to encourage bringing larger hectares of land under horticultural crops through out the year and thus enhancing the faat are being marketed in the Rythu Bazaars.

- Organic based vegetable cultivation should be promoted to produce healthy horticultural crops assuring Minimum Support Price to all the varieties of crop by encouraging the Minimum Support Price.

- All the farmer sellers should be trained on Cooperative Societies Management and all the rythu bazaars should be turned to Cooperative Society Model and also federation of Cooperatives should be formed at all the District levels.

- Farmers who were provided with ID Cards may be allowed to sell their vegetable produce at any Rythu Bazaar to approapriate reasonable profits.
• ID cards may be issued by the MRO with counter signature of both Agriculture Officer of that particular village and Horticulture Officer to eliminate the middlemen at Rythu Bazaars.

• Call Centres should be established at each and every Rythu Bazaar to disseminate the information on prices and demand for the product, demand and price of the product at different markets like Rythu Bazaars, wholesale markets, retail markets etc and information at different stages of production.

• Processing centres may be established under the control of Federation of Cooperative Societies of Rythu Bazaars at each District for different products so that over supply situation can be addressed. On the other hand, excess supply may be linked up with processing units / other Rythu Bazaars, where demand is very high.

• Rythu Bazaars may be turned into self-sustained enterprise models in the state. For example excess / waste vegetables can be utilized by establishing the small Bio-Gas units under waste management.

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