PROJECT REPORT ON

MARKETING STRATEGY OF VEGETABLE GROWERS IN RANCHI DISTRICT OF JHARKHAND

Submitted in partial fulfilment of the requirements for the degree of

MASTER OF BUSINESS ADMINISTRATION IN AGRIBUSINESS

By

Arun Kumar

CENTRE FOR AGRIBUSINESS MANAGEMENT

FACULTY OF AGRICULTURE

BIRSA AGRICULTURAL UNIVERSITY

KANKE, RANCHI- 834006 (JHARKHAND)

Regd. No. MBA/BAU/4403/2015

2017

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ON

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PROJECT SUBMITTED

TO

CENTRE FOR AGRIBUSINESS MANAGEMENT

BIRSA AGRICULTURAL UNIVERSITY RANCHI JHARKHAND

BY

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IN PARTIAL FULFILLMENT OF THE REQUIREMENTS

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2017

समर्पित; स्वर्गीय त्रिवेणी राम (दादा जी)

DEDICATED

To

My Grandfather,

Indian Farmers,

My Family

And

Friends

Arun……

CENTRE FOR AGRIBUSINESS MANAGEMENT
FACULTY OF AGRICULTURE
BIRSA AGRICULTURAL UNIVERSITY
RANCHI - 834006 (JHARKHAND)

Dr. B.K. Jha

Asst. Prof. - cum - junior scientist

Deptt. of Agril. Exten. Comm.

Certificate

This is to certify that the work recorded in the project report entitled, ***"MARKETING STRATEGY OF VEGETABLE GROWERS IN RANCHI DISTRICT OF JHARKHAND"*** *submitted in partial fulfilment of the requirements for the degree of* ***MASTER OF BUSINESS ADMINISTRATION IN AGRIBUSINESS*** *of the* ***Faculty of Post-Graduate Studies****, Birsa Agricultural University, Ranchi is faithful record of bonafide project work carried out by* ***Mr. ARUN KUMAR*** *under my supervision and guidance. No part of the report has been submitted for any other degree or diploma.*

It is further certified that the assistance and help received by him during the course of investigation and preparation of the report have been duly acknowledged.

Endorsed

……. …….

Director ***(Dr. B.K. Jha)***

Centre for Agribusiness Management *Chairman*

Advisory Committee

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(Certificate of the Advisory Committee Members and Endorsement of Dean, Agriculture)

We, the undersigned members of the Advisory Committee of ***Mr. ARUN KUMAR****, a candidate for the degree of* ***MASTER OF BUSINESS ADMINISTRATION IN AGRIBUSINESS*** *have gone through the manuscript of the report and agree that the project entitled,* ***"MARKETING STRATEGY OF VEGETABLE GROWERS IN RANCHI DISTRICT OF JHARKHAND"*** *may be submitted by* ***Mr. Arun Kumar*** *in partial fulfilment of the requirement for the degree.*

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(Dr. B.K. Jha)
Chairman
Advisory Committee

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Director
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Certificate

(Certificate of Approval by the Chairman of Advisory Committee and External Examiner)

This is to certify that the work recorded in this report entitled, ***"MARKETING STRATEGY OF VEGETABLE GROWERS IN RANCHI DISTRICT OF JHARKHAND"*** *submitted by* ***Mr. ARUN KUMAR*** *in partial fulfilment of the requirements for the degree of* ***MASTER OF BUSINESS ADMINISTRATION IN AGRIBUSINESS*** *of the Faculty of Agriculture, Birsa Agricultural University, Ranchi (Jharkhand) was examined and approved on ……2017.*

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Date: - …/…../ 2017

Place: -Ranchi *ARUN KUMAR*

ABSTRACT

Vegetables are important cash crop of the farmers. The state of Jharkhand is endowed with conducive condition for cultivation of a variety of vegetables crops. It is common knowledge that farmers do not get adequate shares in consumer's rupee. In the backdrop of market- led extension and doubling income of the farmers, a study on "Marketing strategy of vegetable growers in Ranchi district of Jharkhand" was planned with the specific objectives namely, to study socio-economic profile of vegetable growers, to study marketing process, to assess profit margins of selected vegetable crops and to suggest suitable measures for enhancing marketing efficiency and profit margin of the farmers. The study was conducted in Ranchi district of Jharkhand. One block *i.e*. Kanke was purposively selected. Two villages namely, Pithoriya and Rendo were also purposively selected. Fifty farmers from each village were randomly selected making the sample size of 100 respondents. The findings indicated that majority of the farmers were male of young age, marginal and small and had agriculture and labour as primary occupation. Annual income of the majority of the respondents was found to be above Rs. 60,000. Mobile and television were found to be the media most often used by majority of the farmers. The respondents had full adoption of the technology on pesticide, chemical fertilizer and hybrid variety whereas majority of the respondents were reported to have nil adoption of bio-fertilizer, FYM and water harvesting. Majority of the respondents had medium level of management orientation, innovativeness, risk orientation and economic motivation. Major parts of the vegetables were sold in local market directly to the consumer. Price negotiation was dominated by the buyers. Majority of the respondents used cycle as a means of transport and did not adopt any primary processing measures. Farmers with larger area under vegetable crops earned higher profit. Potato was found to be the least earning crop. Hence, it could be concluded that marketing efficiencies and profit margins of the farmers could be increased through the strategies like strengthening marketing infrastructure, cold chain, market information and intelligence, organization of farmers and subsidy of transportation vehicle and packaging materials.

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ABBREVIATIONS USED

et al.	: et alli (co authors)
Fig.	: Figure
FYM	: Farm yard Manure
ha	: Hectare
i.e.	: That is
No.	: Number
n	: Total number of respondents
Viz.	: Videlicet (namely)
S.N.	: Serial no.
° c	: Degree Celsius
Min.	: Minimum
Max.	: Maximum
Mm	: Millimetres
Mgt.	: Management
MT.	: Metric Tonne
T.	: Tonne
%	: Percentage
Rs.	: Rupees
kg.	: Kilogram

CHAPTER-1

INTRODUCTION

CHAPTER -1

INTRODUCTION

Vegetables are the essential items in everyday meals as they contain all the required nutrients for a balanced diet. The vegetables also have medicinal and aesthetic value. These days vegetable cultivation has become highly commercialized, however, there is still a wide gap between actual and potential productivity. So collective efforts has to be made by researchers policy makers and extensionists to overcome these constraints. In ancient times, people used to consume tubers and vegetables primarily for their easy availability tempting succulence, pleasant flavour and regularity effects. Modern research has proved their value in balancing meat and cereal foods. With the spread of knowledge about the nutritive value of vegetables, there has been a considerable change in food habits of the people in advanced countries and within urban areas in the country, which now form a substantial part of their diet, resulting in increased demand for vegetables. The consumption of vegetables in India, with a large vegetarian population, is surprisingly low. The diet of our people is largely cereal based with preponderance of a single food grain and meagre intake of protective foods such as vegetable and fruits. The per capita availability of vegetables in India is 140gms/day/person, which is just the half of the recommended level of Indian Council of Medical Research (Rao, 2010). Ours' being a vegetarian society, the role of vegetables in improving the dietary standards of the people becomes all the more vital. Therefore, the uptake of vegetables needs to be augmented by a change in food habits. This will naturally call for substantial increase in production of vegetables, through improvement in agro-techniques and their subsequent delivery to the farmers.

At the global level, vegetables occupy the area of 53.97 million hectares with an annual production of 1012.52 million tonnes (Anonymous, 2011b). India has been growing vegetables for several centuries and is the second largest producer of vegetables in the world (after China), accounting for roughly 14 per cent of the world's production. More than 70kinds of vegetables belonging to different groups, namely cucurbits, cole crops, Solanaceaeus vegetables, root and leafy vegetables are grown in the country (Salaria and Salaria, 2010). The production of vegetables in India in 2010-11 stands at over 146.5 million tonnes from an area of 8.5 million hectare (Anonymous, 2011b).

The State of Jharkhand is endowed with a conductive condition for cultivation of a variety of horticultural crops. The wide product base, high volume of round the year

production, strategic geographical location and high domestic demand automatically project horticulture as the thrust area. The horticultural produce including off season vegetables from the state are being preferred in the neighbouring states for their quality and time of availability. Presently, horticultural crops are grown over an area of 3.35 lakh hectares. The main producing regions are; *Ranchi, Hazaribagh, Lohardaga, Gumla, Giridih, East Singhbhum, Dumka, Godda, Deoghar, Jamtara and Saraikela-Kharsawan*. The maximum production of vegetables occurs in the Central and Eastern plateau region of Jharkhand which is highly suited for development of horticulture – based economy with the major crops being cauliflower, tomato, potato and French beans. The productivity of vegetable in the State is 14.49 tones/ha against national average of 16.00 tonnes/ha. Districts like Ranchi, Gumla, Hazaribagh, and Lohardaga are known for round the year production of vegetables due to suitable climatic conditions. Jharkhand produces about 4.91 m. MT of horticulture produce from an area of 0.33 m hectare and accounts for 2.04% of total horticulture production of the country. The major share of horticulture production is from vegetables (83. 69%).About1.75 lakh MT of vegetables have been traded in organized markets with average price of Rs. 14.73/kg.

Cauliflower

- Jharkhand is the sixth-major cauliflower producing state in the country and accounts for 6% of total production of cauliflower in the country.
- The State produces about 0.36 m. MT of cauliflower from an area of 0.02 m. ha with the productivity of 16 t/ha.

Potato

- The State produces 0.66 m MT of potato from an area of 0.04 m. ha. With the productivity of 16.5 tonnes/ha., production of potato accounts for 15.94% of total vegetable produce in the State.

Tomato

- Jharkhand accounts for 2% of total production of tomato in the country. The State produces 0.40 MT of tomato from an area of 0.02 m. ha. With the productivity of 18.0 tonnes/ha., production of tomato accounts for 9.77% of total vegetable produce in the State.

Marketing strategies of vegetables growers: -

Developing an effective marketing strategy is an important key to success of vegetable growers. Like other business, vegetable growers must confront with many factors that are beyond their control. Reducing risk and managing uncertainty is how business and growers can improve profits. It is as important for a grower to develop a marketing strategy as it for a large corporation.

Growers marketing strategies can be broken down into four broad categories: -

- ❖ Marketing method – deciding where to market
- ❖ Product decision – deciding what and when to produce
- ❖ Pricing strategies – realizing the potential
- ❖ Merchandising – making the most of the marketing payoff.

❖ *Marketing method: deciding where to market*

Deciding where to market depend on the volume of produce to be marketed. In general, the larger the volume of produce handled, the greater the number of marketing alternatives. Small scale producers may be limited to local or regional market while larger producers are able to market at national and international level as well. Some small grower is able to access national markets by selling their produce through a grower's cooperatives or a dealer at state farmer's market.

There are advantages and disadvantages to any marketing outlet. The best market for a grower is not just the market that offers the highest market price, but is the one that matches his or her particular circumstances at any given time. The following information summarizes some of the characteristics of marketing alternatives for vegetable growers.

- ***Local market***

Growers consider growing produce in an area where a commercial produce industry has not matured should first consider marketing alternatives available in local market. Local markets are easier to access because they can be served by an individual grower with a small or large volume of produce. Local markets that can be used by growers are discussed below:

- ***U- Pick market***

A popular method of selling in local markets is with a u-pick operation. U-pick is advantageous in that it eliminates the cost of harvesting and transporting produced to the market. It also eliminates the need for a produce dealer and the fees they charge. However, u-pick operations often are set up in fields after it has been unprofitable for the grower to commercially harvest and market the produce. Some grower prefers operate their businesses as we -pick, i.e., the grower harvest the crop. While harvesting cost can be higher, this method insures more even harvesting and reduces field damage.

The important factor for determining the success of u-pick operation is location. The most operation must be close enough to a large population that will come to the grower's field to pick their own produce.

- ***Road side stand***

Road side stand also have the advantages of reducing produce dealer's fees. Transportation costs may be higher or lower than alternatives. Depending on whether the stands in an urban or rural location near a large urban population. Success of a stand depends on location near a large urban population centres; a long selling season; a high percentage of year-round residents; acreage available for vegetable production; and grower income from other source beside vegetables. An additional factors that is important, is developing repeat customers through good will and consistency of supply (either by spacing out production or selling produce from other growers).

- ***City and local farmers markets***

City and local farmers market are basically road side stand that are concentrated in an urban area. These markets are generally well established and have developed a clientele who purchase in the local market. Compare to road side stand, is that the grower may have to pay higher transportation cost. The advantages are that the growers do not need to worry about advertising to entice customers to travel to the stand.

A grower's ability to sell produce to local retail outlets depend on being a reliable suppliers of consistent quality produce. The advantage to the grower selling directly in this market is that no dealer is paid. A disadvantage is that the local retail outlet may handle only a small portion of the grower's total supply and may therefore take more time and effort than a grower can commit to satisfy the retail owner's demand.

Grower wishing to sell produce to local retail outlets must first identify those in the surrounding area that buy their own produce. This can be done by contacting the produce managers of nearby stores. The grower must determine the needs of these buyers and decide if these needs can be satisfied.

- ***Regional and national market***

Regional and national markets are generally accessed through state farmers markets, growers' cooperatives, and direct selling to produce dealers.

- ***Cooperatives***

Grower cooperatives enable growers to access larger markets than they otherwise could on their own. Cooperatives provide a variety of services to their members, which can include packing, cooling, selling, bulk purchase of supplies, and coordination of labour. Development of a brand name for the cooperatives product and greater bargaining power are some of the other advantages a cooperative can offer.

- ***Direct selling***

Produce dealers are used by most large-scale producers to direct sell their product in national and regional markets. Small scale producers usually do not have sufficient volume to attract produce dealers. Even if they do attract a dealer, the dealer may not work as hard for the small grower as he would for the larger growers since income is generally based on volume.

❖ *Produce decision: what and when to produce*

- ***Deciding what to produce***

Factors that must be considered when deciding what to produce are somewhat different in nature than those of other businesses. For example, growers are limited in their ability to differentiate their product from those of their competitors. Growers also have less certainty about the ultimate quality and quantity of what they will have available for sale. Although the production risk may be greater than that of other businessman, product strategy is the same; that is to produce and market product that have a reasonable chance of generating acceptable profits.

- ***Producing for a market***

In the produce industry, it is not usually possible to lock in a price or a commitment with a buyer to buy a crop before it is grown. However, it is possible to develop a marketing strategy that will greatly improve chances of finding a profitable market for the crop before it is

grown. When making decisions about what crop to grow, one of the first and most important question to be asked is where will it be sold? This may seem obvious, but many growers may do little research when it comes to marketing their crop. A demand for your product when you are ready to harvest cannot be assumed. Market decision should always be considered thoroughly before a crop is planted are the choices of a market will help determine what crops and varieties to grow and when to grow them.

- ***Producing at a profit***

In addition to researching possible market for a crop, there is need to decide if it is profitable to produce that crop. When evaluating resources needed to grow the crop, the cost and availability of land, irrigated vs. non-irrigated technology, labour and machinery and the availability of capital for purchasing input must be considered. Budget should be developed and break-even prices calculated at different cost and yields. With this information, a range of net return for various price, and yield combinations can be estimated. The more experience and information available, the better the estimates will be, and the higher probability that the estimated net returns will be reasonable predictions.

- ***Reducing production risk***

After determining where to sell the crop and calculating the profitability of producing it, a few more steps are needed to complete planning for an effective product strategy. One of these decisions is planning a production strategy. Irrigation, pest control, and timely planning and harvesting are production factors that can be managed to reduce production risks. Equally important are post-harvest practices are such as cooling and storage that are necessary to maintain quality. Developing good post-harvest practice is essential for highly perishable fresh produce and will help attract buyers and avoid problem such as rejection or dumping of the product.

- ***Timing production for the market***

Deciding when to produce is another important decision that is link to a pricing strategy and to the choice of a market. Growers producing for local markets will usually need to plan for suggested planting that will ensure a consistent supply throughout a marketing season.

There are several strategies that can be developed to avoid these problems. The most important is communication with buyer to find out what crops are needed and which ones may be over- supplied. The members of grower's cooperatives should communicate with their manager or growers' agent for the cooperatives.

It is also important to realize that high profits are often associated with greater risk. Therefore, the best planning strategy may not be one that is solely geared to production for market niches. Diversification lowers risk and is achieved by planting a variety of crop that are available for harvest at a variety of times.

❖ *Pricing strategy: realizing the potential*

When selling directly to consumer at the farmers market or to other local outlet, the price received depends mainly on the produce prices in local supermarket and any premium the consumer is willing to pay for higher quality or freshness of local produce. When selling to produce dealer at a farmer's market, the price received depends on the price the broker or grower's agent receives. This price is determined by national supply and demand conditions.

One of the more difficult marketing decisions is knowing when to accept a price and when to wait for something better. Growers would like to sell their products at the highest possible price, but no one knows when this price is highest. Therefore, one must know what price level is consistent with an acceptable profit for the total farming operation. Careful attention to market trend will help decide whether to accept a price or wait for something better.

❖ *Merchandising decisions: making the most of the marketing payoff*

After making decisions about what products to grow and where to sell them, the final step in planning a marketing strategy is developing a merchandising scheme that will help realize the full value of the products. A merchandizing strategy can be summarised as getting the right quality of the right product in the right place at the right time.

Growers who sell directly to consumers need to consider how to provide a dependable supply of uniform quality products at convenient location; attractive display and packaging; and, effective advertising, pricing, and selling strategies.

Growers who sell to produce dealers can also develop a merchandizing strategy. If a reputation for producing and delivering top quality produce is developed, a premium over prices paid to other suppliers may be commanded. A higher price may also be realized if buyers are provided with product on a time schedule or on short notice. Large growers, or small growers who pool produce, may be able to develop a brand name or a local identity for their product that may improve demand for the product and prices received.

These decisions are not made independently but must be evaluated in relation to other considerations. For example, deciding what to produce depends on when and where it will be sold which in turn determines how it will be packed and labelled.

It is common knowledge that farmers do not get adequate share in consumer's rupee. Moreover, vegetable being commercial crops must fetch sufficient income to the farmers. In the backdrop of market-led extension and doubling income of the farmers, a *study on* **"*Marketing Strategy of Vegetable Growers in Ranchi District of Jharkhand*"** has been planned with the following specific objectives.

1. To study socio- economic profile of vegetable growers.
2. To study marketing process.
3. To assess profit margins in selected vegetables crops.
4. To suggest suitable measures for enhancing marketing efficiency and profit margin of the farmers.

CHAPTER-2

REVIEW OF LITERATURE

CHAPTER – 2
REVIEW OF LITERATURE

The review of past studies helps in framing objectives, developing research design, variable selection, interpreting the results and in drawing meaningful conclusions. In accordance with the objectives of the study, a brief review of literature is presented here under the following headings.

2.1 Socio- economic profile of vegetable growers
2.2 Marketing process
2.3 Profit margins in selected vegetables crops
2.4 Suitable measures for enhancing marketing efficiency and profit margin of the farmers

2.1 Socio-economic profile of vegetable of growers.

Vasanth kumar (2000) revealed that a majority of big farmers had high management orientation (57per cent) whereas a considerable percentage of small growers (44 per cent) were under medium management orientation.

Hanumanaikar *et al*. (2009) reported that majority (60.83 per cent) of the respondents had medium level of knowledge followed by 25.85 per cent and 13.33 per cent of the respondents had high and low level knowledge respectively. Majority of respondents were literate (80.84 per cent) of middle age (53.33%) and having medium annual income (61.66%).

Bihari *et al.* (2012) reported that majority of women farmers were found to have small (38.67%) and medium (49.33%) size of family with farming (83.33%) as the major source of livelihood. As regard to education 62.0%were found to be illiterate. Only 12.0% had education above 8th class. Only 10.67%while in case of material possession max. 54.67% had medium level of possession. Because of their hectic engagements in household & farm activities and unavailability of media sources (News Papers, Television, Radio etc.), less mobility and remoteness of the places where even govt. or non-govt. functionaries are also not able to reach regularly and sufficiently, 72.67% women were found to have low media exposure and about 46.67% had low social contacts.

Phukan *et al.* (2013) found that the 70 per cent of the respondents had medium level of communication behaviour followed by low and high level of communication behaviour i.e. 16.66 per cent and 13.33 per cent, respectively.

Hakeem *et al.* (2014) reported that majority of the respondents, i.e., more than 60% (64.56) had medium communication behaviour, followed by low communication behaviour (22.78%). A very few respondents, i.e., less than 13% (12.66) had high communication behaviour.

Neethi *et al.* (2014) found that the utility of mass media was very limited. The sources of information were TV, newspaper, radio, farm literature, film shows and internet in the order of ranking. A majority of the farmers do not use any of the mass media as the source of information. The reasons for a majority of farmers not utilizing the mass media as a source of information was poverty, illiteracy and being unaware of receiving messages from such sources etc.

Mishra and Ghadei (2015) reveal that, the 35.61% of the vegetable farmers had high school education. Among the sample about 57.56 per cent of farmers were marginal. With respect to farming, about 61.5% had medium level of farming experience. As far as social participation is concerned about 25.37 per cent of vegetable farmers were the member of two organizations. The annual income of vegetable farmers revealed that About 56.59 per cent were found in the medium income category ranging from 55,001 to 1,90,000. The study revealed that 57.07% of vegetable farmers had medium level of socio-economic status.

2.2. Marketing process

Million and Belay (2004) reported that lack of market outlets, storage and processing problems, lack of marketing information, capital constraints, high transportation cost and price variation are some of the important constraints in vegetable production.

Narayana Reddy (2004) reported that most (61 per cent) of the retailers get their requirements from wholesalers, 15 per cent from the large and other retailers. Over 17 per cent of the selected retailers get their goods from more than one source, but a small percentage of retailers get some of their requirements from producers. From the side of the terms of supply, 67 per cent of retailers get their requirement by paying cash. Only 13 per cent of the retailers get their requirements on credit and 19 per cent get credit partly from the suppliers. Apart from this, the study also showed the organized retailers and super markets get wholesalers margin plus concession as they buy in bulk.

According to **FAO (2005a)** agricultural commodities are produced by large numbers of farmers and consumed by large numbers of households. With the exception of foodstuffs consumed on-farm or sold locally, they are bought and sold a number of times between the farm gate and the final consumer. While moving between these two points, the commodity is loaded, off-loaded, transported, stored, cleaned, graded and processed. The commodities that runs from a farmer down to a final user, through which the commodity passes and which embodies these transactions and activities is conventionally referred to as a "marketing and processing chain", a "supply chain", or a "value chain".

Suresh (2005) defined supply chain management (SCM) is the management of upstream and downstream relationships with suppliers and customers to deliver superior customer value at less cost to the supply chain as a whole Thus the focus of supply chain management is upon the management of the relationships in order to achieve a more profitable outcome for all parties in the chain. Organizations use SCM to reduce or eliminate the buffers of inventory that exists between organization in a chain through the sharing of information on demand and current stock levels.

The marketing system was examined; the most important channels being followed are mentioned below as suggested by **Subrahmanyam and Gajanana (2000); Gajanana *et. al.,* (2002),**

- Producer – Commission Agent/Wholesaler – Retailer – Consumer
- Producer – Agent of the distant market/wholesaler – Retailer – Consumer
- Producer – Cooperative Society – Consumer
- Produce – Processor – consumer

Lumpkin, *et. al.,* (2005) reported that horticultural production is profitable. Farmers involved in horticultural production usually earn much higher farm incomes as compared to cereal producers and per capita farm income has been reported up to five times higher.

Weinberger and Lumpkin (2005) found that expanding the scale of horticulture production is often hindered by lack of market access, market information, and many biological factors.

Dhanasree *et al.* (2014) 9 and it was indicated that about three fourth respondents (71.11% to 82.11%) expressed lack of credit facilities, illiteracy, exploitation of money lenders, poor connectivity, lack of accessibility to nearby markets. On the other hand, about

50 per cent respondents (47.77% to 65.55%) expressed limited social participation, lack of access and control of productive resources and services and finally less than 20 per cent of respondents indicated location of isolated villages, limited extension staff, no access to basic amenities.

Dutta and Hazarika (2014) revealed that the most significant factor that directly affected the marketed surplus was total production. The post-harvest loss was found highest for the medium farmers and this might due to lack of proper storage and transport facilities. The most effective channel in marketing of vegetables was Producer-Wholesaler (local)-Commission Agent (distant)-Retailer (local)-Consumer. Producer's share in consumer's rupee was highest in channel II (38.74%) where only one intermediary was involved. Marketing efficiency was highest in channel II, i.e. Producer –Retailer (local) - Consumer.

Srinivas *et al.* (2014) reveal that 53.33% of the tomato growers belong to medium level of marketing practices category followed by high (25%) and low (21.67%). The reason for medium level of marketing practices category might be their level of knowledge. The findings reveal that, 88.33% farmers indicated that they harvest at the stage of half ripened, 85.84% of the farmers have used wooden box for packing, 71.67% of the farmers used tempo to transport the produce, 64.17% of the Review of Literature 43 farmers are not practicing the grading and about 96.67% of farmer used 15kg box as standard weight. All the farmers indicated that price of the produce is determined by open auction and 85.83% of farmers indicated payment is made on the spot.

2.3 Profit margins in selected vegetables crop

Sen and Maurya (1998) revealed that for the total marketing charges (including cost of transport) payable, 65.92 per cent and 66.98 per cent are payable by the sellers (producers) 12.22 per cent and 11.84 per cent by wholesalers and 21.86 per cent and 21.18 per cent by retailers in Chandwa and Kamachcha markets respectively, and a little more than 28 per cent and 31 per cent of marketing charges are accounted for by the cost of transport in these two villages respectively. While studying price spread between the price received by producers in selected villages and that paid by the consumers in Varanasi city included all the marketing charges (including commission and transport charges) paid by the wholesalers and retailers. By this study, it also observed that the producers share in consumer's rupee for the vegetables was the lowest for tomato and highest for brinjal in both the markets. Totally, the share of the producers was highest for vegetables with less perishability or with facilities of cold storage while it was lowest for vegetables with greater perishability. The margin of wholesalers and

retailers for such vegetables (like tomato, green pea) was highest. Finally, the price spread accounted for more than 33 per cent of the price paid by the consumer for major vegetables under study.

Dhindsa *et. al.,* (2003) showed that potato cultivation was a paying crop in spite of the fact that production costs for potato crop were high (Rs. 26827 per hectare). Apart from this, the efficiency was directly related to farm size indicating thereby that the large farmers were more competent and capable for its production. The highest magnitude of gross returns over large farms was Rs. 60683/ha. The employment avenues provided by this crop particularly to the hired labour with 77.50 per cent of the total labour force and more so to female labour were quite high.

Grover *et. al.,* (2003) showed that the gross returns from tomato in Punjab were the lowest for small farms (Rs. 58999/hectare) and the highest for the large farms (Rs. 76553/ hectare). The net returns based on cost C2 varied between Rs. 29639/hectare for small farms and Rs. 45521/hectare for large farms. The benefit cost ratio was almost equal to or greater than two for all the costs except cost C3 for the entire farm size categories showing the profitability of tomato production in the state.

Adil *et. al.,* (2007) carried out the profitability analysis of summer vegetables by farm size in Pakistan and the results indicated that the vegetable growers with small land holdings obtained higher returns as compared to those having large holdings. It was suggested that the vegetable production could be boosted up by providing financial assistance to the small vegetable growers.

Singh and Toppo (2010) studied economics of production of tomato in Kanke block of Ranchi district. The study revealed that the average cost of cultivation per hectare of kharif and rabi tomato was estimated as Rs. 26011 and Rs. 23523, respectively. This crop fetched Rs. 16963 and Rs. 23303 as net profit per hectare in kharif and rabi seasons. The cost-returns ratio was 1:1.65 and 1:1.86 for tomato in the two seasons.

2.4 Suitable measures for enhancing marketing efficiency and profit margin of the farmers.

Sindhu (1997) discussed about **t**here are two types of market efficiency: Operational efficiency which refers to the situation where costs of marketing are reduced without affecting consumers‟ satisfaction and Pricing efficiency which concerned with the ability of marketing

system to efficiently allocate resources and coordinate the entire agriculture production and marketing system in accordance with consumers interests.

Kumar and Arora (1999) conducted study on post-harvest management of vegetable in Uttar Pradesh hills (now Uttarakhand hills) indicated that no availability of cold storages, highly perishable nature of the vegetables, low marketing demand for the produce at the time of storage are the major problems as perceived by farmers.

Mohapatra (1999) found that establishment of storage godowns at each block head quarter and in the onion producing areas is necessary to get fair prices for the produce in lean season, regulation of onion sale price should be done by government through involvement of regulated market committee (by NAFED) by establishing procurement centers so that exploitation by middleman can be minimized, institutional credit facilities at right time should be extended to the onion farmers on priority basis.

Shin (2001) reported that Small-scale production, poor infrastructure and inadequate post-harvest technology and facilities hamper operational efficiency. The pricing efficiency is hampered by several problems and constraints related to fruit grading, marketing channel and market information. Grades and standards simplify marketing process and reduce marketing cost, provide ethical basis for buying, selling and contribute to operational and pricing efficiency by lowering search and transaction costs, facilitating price discovery process and encouraging competitiveness.

Gandhi and Namboodiri (2002) observed that the use of open auction as a system market transaction is very limited and most of exchanges take place through secret bidding or simple transaction. Significant market efficiency losses may be taking place due to this. Analysis of marketing costs indicated that on an average they hover around 8 per cent of the consumer prices for vegetable. Among different cost components, transport cost and commission are the most important. Analysis of pries at different levels indicated that over all the average share of the farmers in the consumer price is only around 48 per cent for vegetables.

Gummagolmath *et. al.* (2014) conducted a study to know gaps in infrastructure of Gram Panchayat markets in Odisha and to suggest measures for improvement in the functioning of these markets. The targeted improvement of activities is suggested based on the gaps in core infrastructure such as cover shed, drying platform, cleaning and grading facilities etc. Provision of services, facilities and outlets for the improved collection, market

preparation, transportation and sale of agricultural produce is also suggested. The study suggested that in order to achieve the goal of providing Good Marketing Practices in periodical markets, Regulated Market Committees should take over the ownership and maintenance of markets.

CHAPTER-3

METHODOLOGY

CHAPTER- 3

METHODOLOGY

Research methodology is the description, explanation and justification of various methods of conducting research. The choice of a research method depends upon the researcher's judgment and resources available. Therefore, it was imperative to adopt standard procedure, which was designed for a particular research project. The research methodology adopted for conducting the present study has been discussed under the following headings:

3.1 Selection of locale study

3.2 Selection of variables

3.3 Data collection method

3.4 Analysis of data

3.1 Selection of locale of the study

The study was conducted in Ranchi district of Jharkhand state as it is the leading district in terms of total area under vegetables in the state.

a. Selection of blocks

The district Ranchi comprises 20 community development blocks, out of which only Kanke block was selected randomly for the purpose of study.

b. Selection of village

Two villages namely, Pithoriya and Rendo were selected.

c. Selection of respondents

Fifty vegetable growers from each village were selected randomly. Thus the sample constituted 100 respondents.

3.2 Selection of variables

The variables like-age, gender, education, size of holding, communication behaviour, irrigation potential, technology adoption, occupation, income, farming experience, training exposure, management orientation, innovativeness, risk orientation, economic motivation, primary processing, packaging, transportation, cost of production and profit

were selected as variables under the study. These were measured with the indices already developed or developed under the study.

Table 3.1.1 shows that variable and their measurements under the study

S.N.	Variable	Empirical measurement
1.	Gender	Schedule developed under the study
2.	Age	Chronological age in completed years
3.	Education	Scale developed by Kumar (2015)
4.	Family size	Schedule developed under the study
5.	Family type	Schedule developed under the study
6.	Housing pattern	Scale developed by Kumar (2015)
7.	Land holding	As per Government of India
8.	Occupation	Scale developed by Kumar (2015)
9.	Annual income	Total income of farmers in rupees
10.	Percentage irrigated area	Irrigated area/Total area x 100
11.	Farming experience	Experiences (No. of years)
12.	Training exposure	Number of days
13.	Technology adoption	Schedule developed under the study
14.	Communication behaviour	Scale developed by Vijayaraghwan (1976)
15.	Management orientation	Scale developed by Samantha (1977)
16.	innovativeness	Scale developed by Rogers and Svenning (1969)
17.	Risk orientation	Scale developed by Supe (1969)
18.	Economic motivation	Scale developed by Kumar (2015)
19.	Price fixation	Schedule developed under the study
20.	Transportation	Schedule developed under the study
21.	Primary processing	Schedule developed under the study
22.	Packaging	Schedule developed under the study

3.3 Collection of data

Both primary and secondary data were collected as per the objective of study. Primary data were collected through semi structured schedule. Secondary data were collected from District Horticulture Office, Books, Journals and Websites.

3.4 Data analysis

Data were analysed through frequency percentage and other relevant statistical methods. Analysed data were interpreted on the basis of local situation and experimental findings which has been presented in the form of table, chart etc.

Percentage:

The frequency of a particular cell was divided by the total number of respondents or (MPS) in that particular category and multiplied by 100 for calculating the percentage.

Average ($\bar{X}$):

The average ($\bar{X}$) was calculated by adding the total scores obtained by the respondents and divided it by the total number of respondents using the following formula:

$$(\bar{X}) = \frac{\Sigma X}{N}$$

Where,

$(\bar{X})$ = Average or mean

Σ x = Total number of scores obtained by respondents

N = Total number of respondents

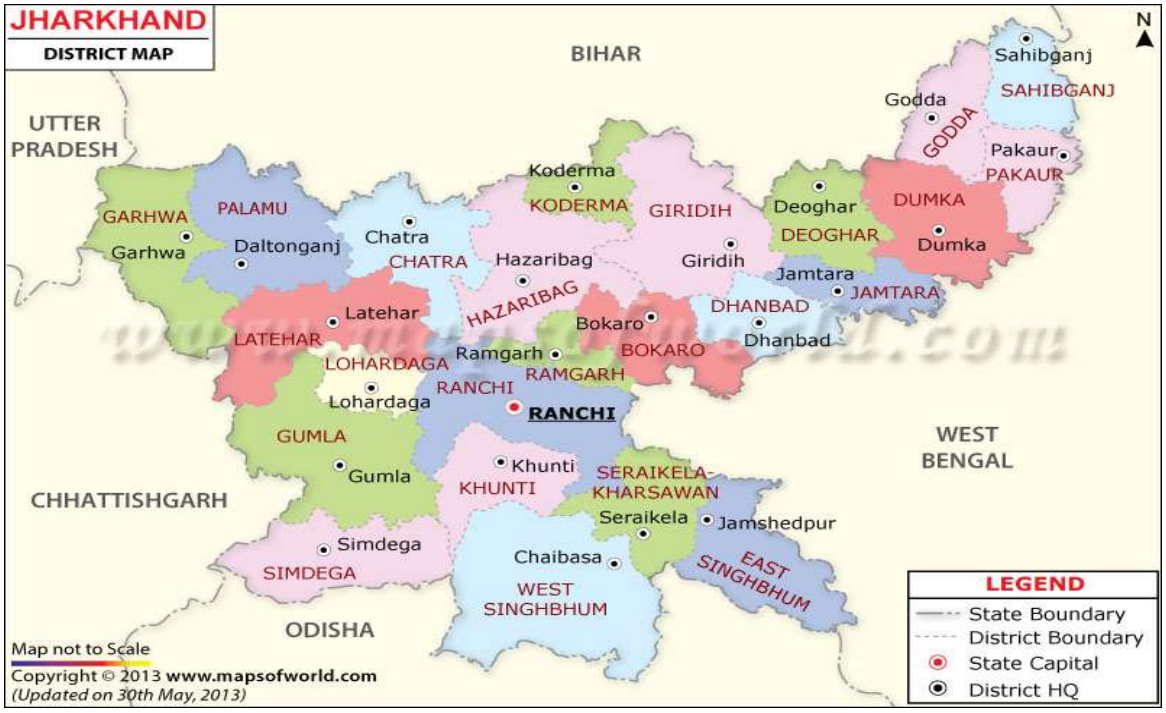


Fig. 1: Map of Jharkhand State

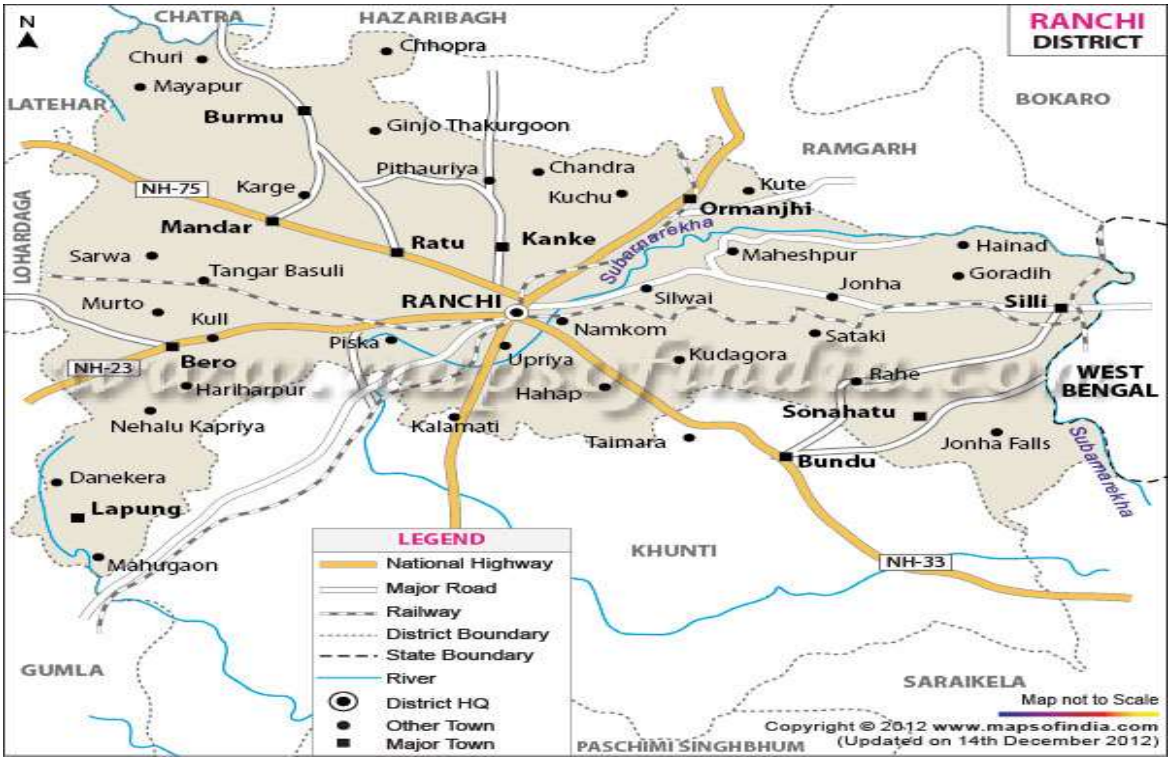


Fig. 2: Map of Ranchi District

PHOTOGRAPHS

Pic. 1 Interaction with farmer in Cauliflower Vegetable field

Pic.2 Interaction with farmers in Pithoriya villages

Pic. 3 Interaction with farmers in Pithoriya Market

Pic. 4 Interaction with farmer on drip irrigation in Rando village

CHAPTER- 4

RESULTS & DISCUSSION

CHAPTER- 4

RESULTS AND DISCUSSION

The present chapter encompasses results and discussion based on the objectives set forth for the study and has been discussed under the following sections:

4.1 Socio- economic profile of vegetable growers

4.2 Marketing process

4.3 Profit margins in selected vegetables crops

4.4 Suitable measures for enhancing marketing efficiency and profit margin of the farmers

4.1 Socio-economic profile of vegetable growers

4.1.1. Gender of the respondents

Frequency distribution of the respondents according to gender is presented in Table 4.1.1.

Table- 4.1.1 Frequency distribution of the respondents according to gender

(n=100)

S.N.	Particular	Frequency	Percentage
1.	Male	98	98
2.	Female	02	02
	Total	100	100

It is evident from the table that majority of the respondents were male (98%) whereas the only (2%) respondents were found to be female. This may be because of the fact that male farmers play a dominant role in society and they have more mobility.

4.1.2 Age of the respondents

Frequency distribution of the respondents according to age is presented in Table 4.1.2 and figure – 3.

Table- 4.1.2 Frequency distribution of the respondents according to age

(n=100)

S.N.	Age category (years)	Frequency	Percentage
1.	Young (Up to 31)	22	22
2.	Middle (32 to 51)	52	52
3.	Old (52 and above)	26	26
	Total	100	100

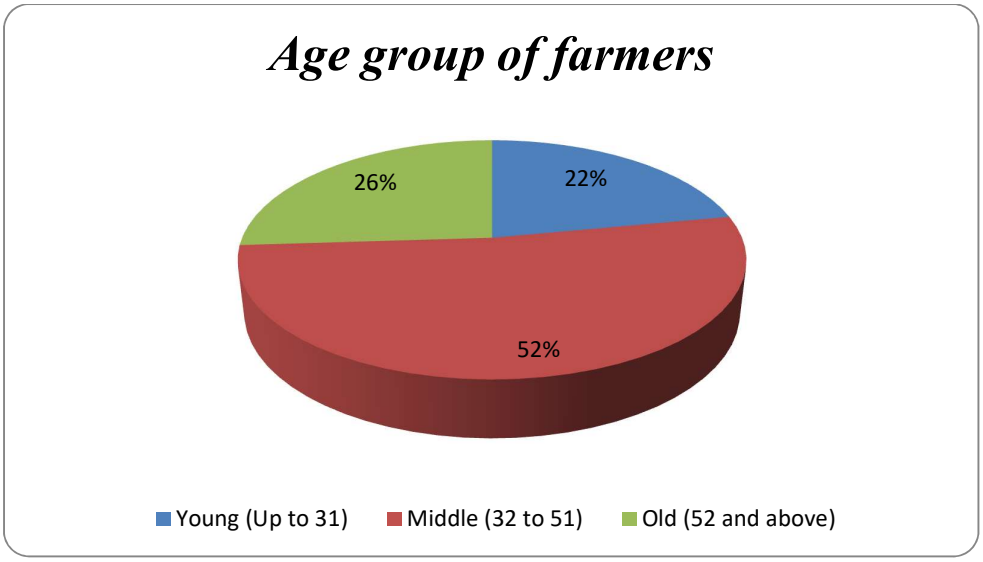


Fig.3 Pie chart showing the distribution of respondents according to their age

Table 4.1.2 reveals that maximum numbers of respondents (52%) were in middle age category followed by young (22%) and old (26%). Therefore, it could be said that decision regarding the farming practices in the study area were expected to be considerably influenced by the middle and old aged farmers.

4.1.3 Education level of the respondents

Frequency distribution of the respondents according to education level is presented in Table 4.1.3 Figure – 4.

Table- 4.1.3 Frequency distribution of the respondents according to education level

(n=100)

S.N.	Category	Frequency	Percentage
A	Illiterate	36	36
B	Literate		
1.	Can read and write	04	04
2.	Primary school	15	15
3.	Middle school	07	07
4.	High school	20	20
5.	Intermediate	16	16
6.	Graduate	02	02
	Total	100	100

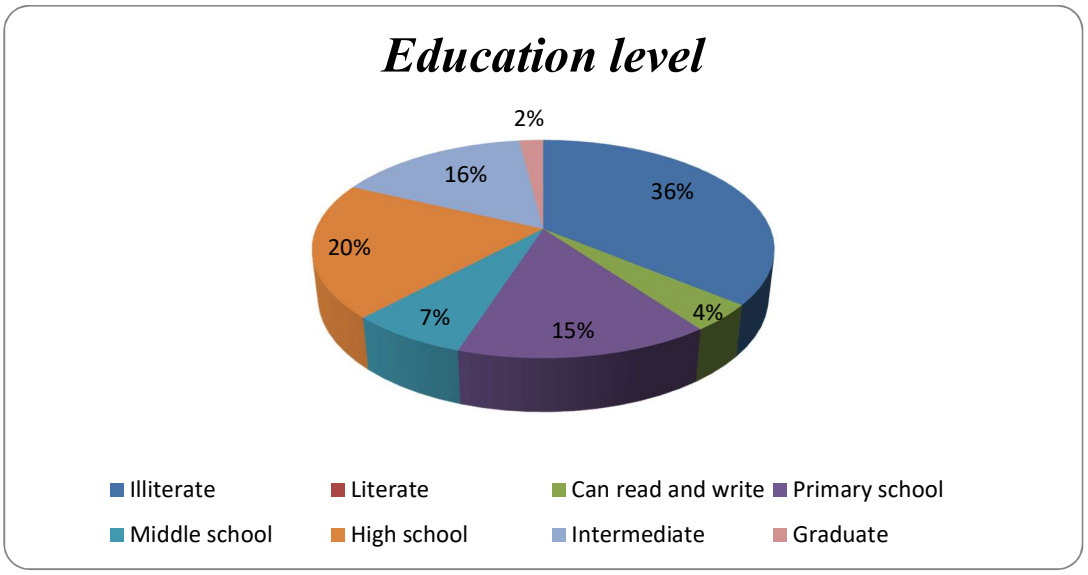


Fig.4 Pie chart showing the distribution of respondents by education level

The table indicates that 36% respondents were illiterate while 64% respondents were literate. Further, the educational levels of literate farmers in descending order were: high school (20%), intermediate (16%) primary school (15%), middle school (07%), can read and write (04%), and graduate (02%). Reason for high illiteracy may be attributed to poor educational facilities in rural areas, restrictions in the family for the girls to be inside four walls of house and absence of school in the village or nearby villages.

4.1.4 Family type of the respondents

Frequency distribution of the respondents according to family type is presented in Table 4.1.4.

Table- 4.1.4 Frequency distribution of the respondents according to family type

(n=100)

S. N.	Categories	Frequency	Percentage
1.	Nuclear family	66	66
2.	Joint family	34	34
	Total	100	100

It is indicated by the table that majority of the farmers (66%) belonged to nuclear family while the rest (34%) belonged to joint family. Hence, there is dominance of nuclear family system is there.

4.1.5. Family size of the respondents

Frequency distribution of the respondents according to family size is presented in Table 4.1.5

Table- 4.1.5 Frequency distribution of the respondents according to family size

(n=100)

S. N.	Categories	Frequency	Percentage
1.	Up to 6 members (Small)	59	59
2.	7 to 13 members (Medium)	40	40
3.	14 members and above (Large)	01	01
	Total	100	100

The table shows that the family size of majority of the farmers was small i.e. up to 6 members (59%) followed by medium size i.e. 7-13 members (40%) and large size i.e. 14 members and above (01%). Hence, it can be conclusively said that small sized families were found dominant.

4.1.6 Size of holding possessed by the respondents

Frequency distribution of the respondents according to size of holding possessed is presented in Table 4.1.6 and figure – 5.

Table 4.1.6: Frequency Distribution of respondents according to size of holding

(n=100)

S.N.	Categories	Frequency	Percentage
1.	Marginal (Up to 1 ha)	37	37
2.	Small (1-2 ha)	41	41
3.	Semi-Medium (2-4 ha)	13	13
4.	Medium (4-10 ha)	09	09
5.	Large (Above 10 ha)	00	00
	Total	100	100

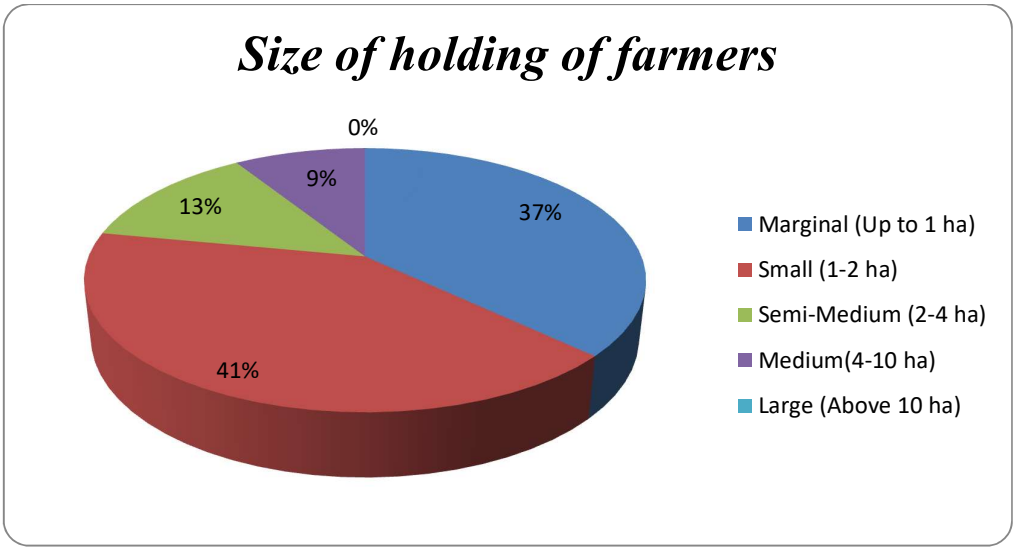


Fig.5 Pie chart showing the distribution of respondents by size of holding

The table reveals that majority of the respondents (41%) were small farmers followed by marginal farmers (37%), semi-medium farmers (13%) and medium farmers (09%). The large farmers were not found in the study area. Thus, it may be concluded that majority of the respondents had 1-2-hectare agricultural land. This might be due to fragmentation of holding due to continued division in joint family.

4.1.7 Housing pattern of the respondents

Frequency distribution of the respondents according to housing pattern is presented in Table 4.1.7

Table-4.1.7 Frequency Distribution of respondents according to housing pattern

(n=100)

S.N.	Categories	Frequency	Percentage
1.	Kaccha	34	34
2.	Mixed	40	40
3.	Pucca	26	26
	Total	100	100

It is revealed by the table that majority of the respondents possessed mixed type of house (40%) followed by Kaccha (34%) and Pucca (26%) type of house.

The results might be due to lower income and traditional housing pattern, due to which 34% of respondents had kaccha house. The changing life style of rural people is attracting them towards pucca housing but it was costly enough for them to build pucca house in one go. So 40% of respondents had mixed housing pattern. The high cost of pucca house construction and lower income from agriculture was the reason that only 26% of respondents had pucca house.

4.1.8 Percentage irrigated area

Frequency distribution of the respondents according to percentage irrigated area commanded is presented in Table 4.1.8.

Table 4.1.8 Frequency distribution of respondents according to percentage irrigated area

(n=100)

S.N.	Categories	Frequency	Percentage
1.	Up to 25%	13	13
2.	26 - 50%	26	26
3.	51 % and above	61	61
	Total	100	100

The table indicates that majority of the respondents (61%) had irrigated area of 51 % and above followed by 26-50 % (26%) and up to 25 % (13%). This gives a cue that in area where horticultural crops are grown irrigation facility is developed.

4.1.9 Occupation of the respondents

Frequency distribution of the respondents according to occupation is presented in Table 4.1.9 and figure – 6.

Table-4.1.9 Frequency Distribution of respondents according to occupation

(n=100)

S.N.	Particular	Frequency	Percentage
1.	Agriculture	39	39
2.	Agriculture + Labour	50	50
3	Agriculture + Animal Husbandry	04	04
4.	Business+ Agriculture	07	07
	Total	100	100

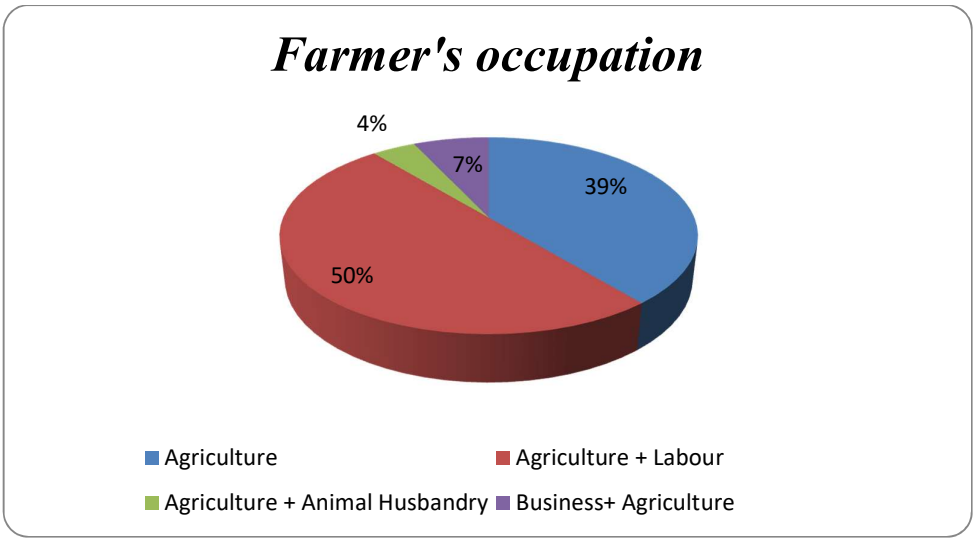


Fig.6 Pie chart showing the distribution of respondents by occupation

It is indicated by the table that the majority of the farmers (50%) reported Agriculture + Labour agriculture as their occupation followed by Agriculture (39 %), Business+ Agriculture (07%) and Agriculture + Animal Husbandry (04%). Hence, the agriculture + Labour were seen as an important occupation in the study area.

It could be concluded that agriculture is not giving sufficient employment to the farmers.

4.1.10 Annual income of the respondents

Frequency distribution of the respondents according to annual income is presented in Table 4.1.10 and figure – 7.

Table-4.1.10: Frequency Distribution of respondents according to annual income

(n=100)

S.N.	Categories	Frequency	Percentage
1.	Up to Rs. 30,000	05	05
2.	Rs. 30,001 to 60,000	30	30
3.	Rs. 60,001 to 90,000	34	34
4.	Rs. 90,001 to and above	31	31
	Total	100	100

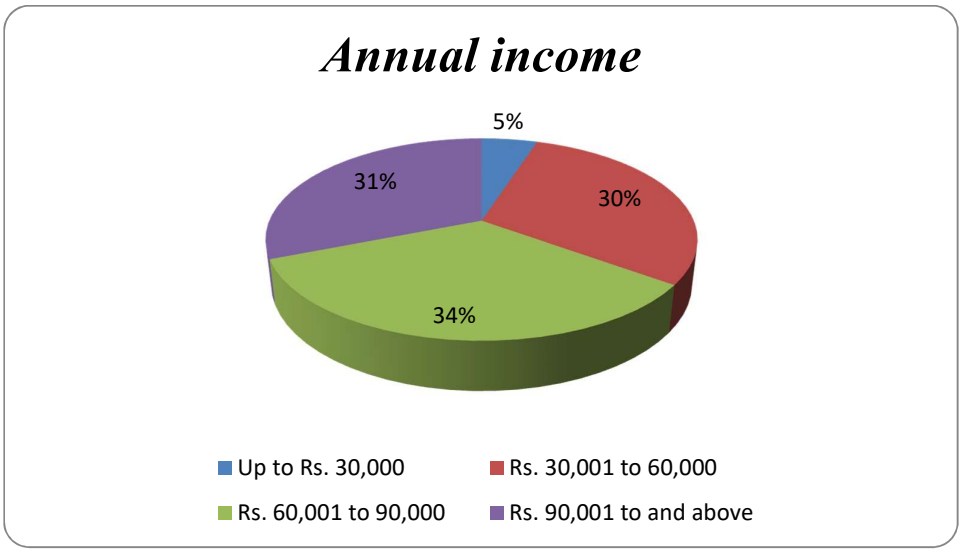


Fig.7 Pie chart showing the distribution of respondents by annual Income

The table reveals that majority of the farmers (34%) had annual income in the range of Rs. 60,001 to Rs. 90,000 followed by Rs. 90,001 and above (31%), Rs. 30,001 to 60,000 (30%) and up to 30,000 (05%).

It is a matter of satisfaction that the annual income of 65% respondents is above Rs. 60,000/- and only 5% respondents had income up-to Rs. 30,000/-. This shows that the income of farmers can be increased through horticulture.

4.1.11 Farming experience of the respondents

Frequency distribution of the respondents according to farming experience is presented in Table 4.1.11 and Figure – 8.

Table-4.1.11: Frequency distribution of respondents according to farming experience

(n=100)

S.N.	Farming experience (years)	Frequency	Percentage
1.	Low (up to 7)	19	19
2.	Medium (8 to 21)	34	34
3.	High (22 and above)	47	47
	Total	100	100

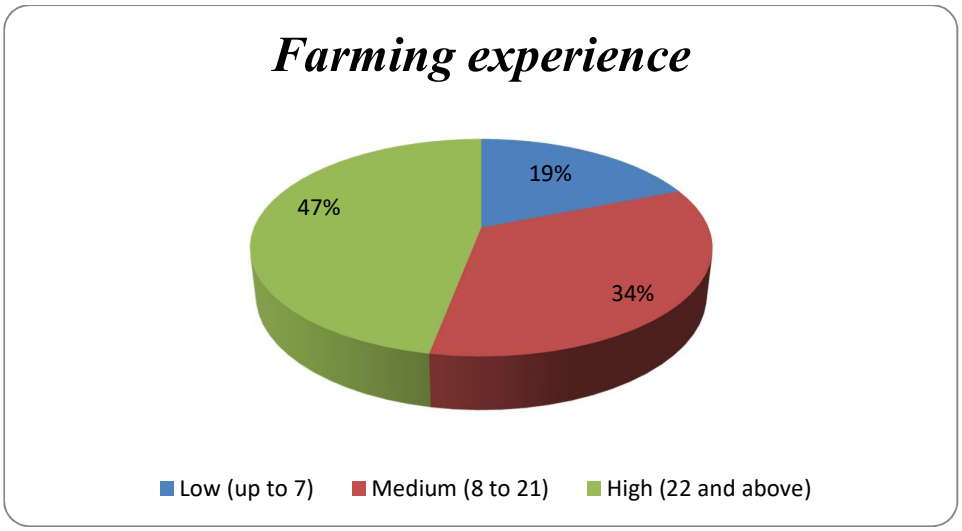


Fig.8 Pie chart showing the distribution of respondents by farming experience

The table shows that the majority of the farmers (47%) had high level of farming experience followed by medium (34%) and low (19%) level of farming experience. The result may be correlated with chronological age of the respondents.

4.1.12 Training exposure of the respondents

Frequency distribution of the respondents according to training exposure is presented in Table 4.1.12 and Figure – 9.

Table-4.1.12: Frequency distribution of respondents according to Training exposure

(n=100)

S.N.	Training Exposure	Frequency	Percentage
1.	Untrained	61	61
2.	1-day training	06	06
3.	≥ 2 and < 5 days' training	14	14
4.	5-7 days' training	05	05
5.	Above 7 days' training	14	14
	Total	100	100

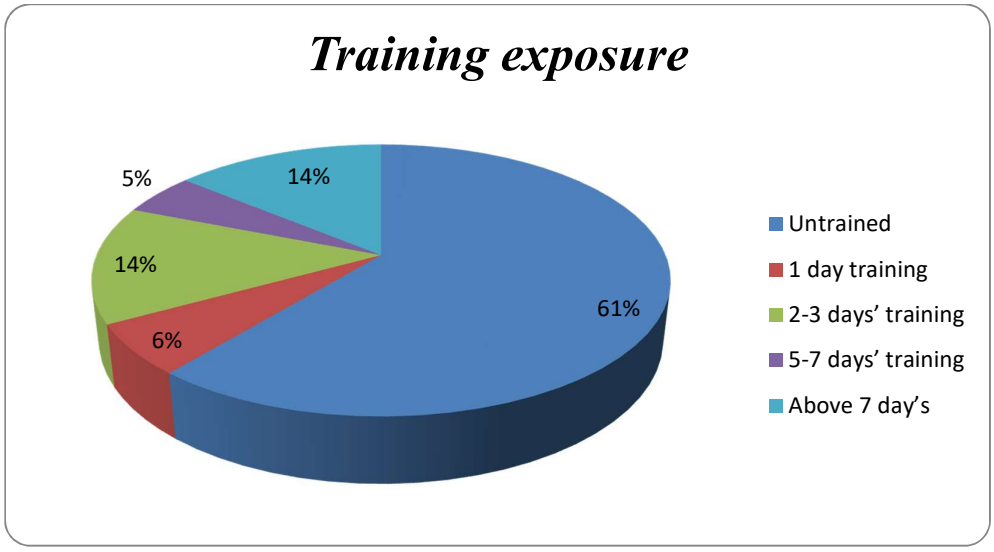


Fig.9 Pie chart showing the distribution of respondents according to training exposures

It is indicated by the table that majority of the respondents (61%) were untrained followed by respondents with ≥ 2 and < 5 days' training (14%), above 7 days' training (14%) 1-day training (06%), 5-7 days' training (05%). The reason behind this, may be due to lack of training programmes organized by different GO (Government Organization) as well as NGOs (Non- governmental organizations).

4.1.13 Communication behaviour of respondents

Frequency distribution of the respondents according to training exposure is presented in Table 4.1.13 and figure – 10.

Table-4.1.13: Frequency distribution of respondents according to communication behavior (n=100)

(Multiple responses)

S.N.	Particular	Most often		Often		Sometime		Never	
		F	%	F	%	F	%	F	%
1.	Television	30	30	23	23	02	02	45	45
2.	Radio	03	03	05	05	10	10	82	82
3.	Newspaper	10	10	08	08	18	18	64	64
4.	Mobile	44	44	50	50	04	04	02	02
5.	Internet	07	07	12	12	09	09	72	72

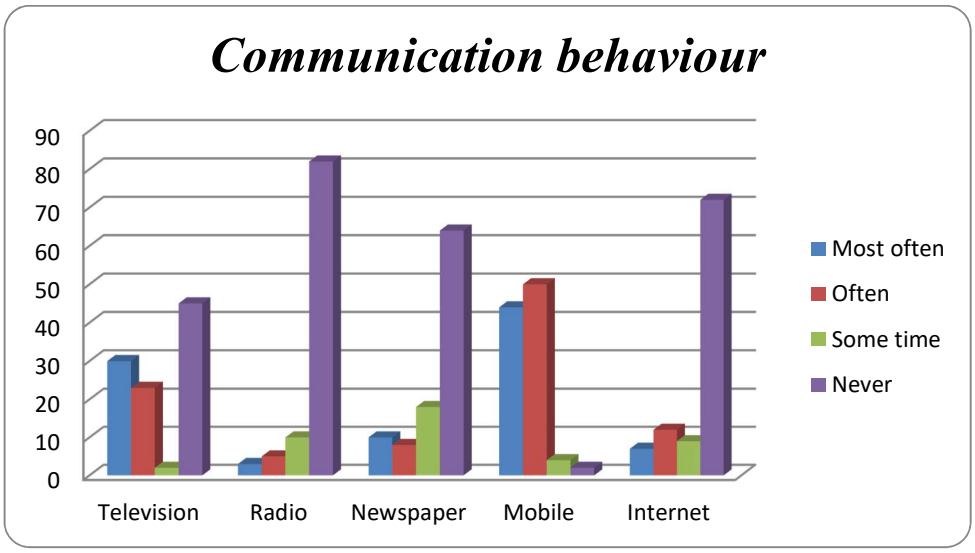


Fig.10 Graph showing the distribution of respondents according to communication behaviour

It is apparent from the table that mobile is most often used by (44%) of the respondents which is followed by television (30%), newspaper (10%) and internet (7%). Contrarily, 82% of the respondents never used radio which was followed by internet (72%), newspaper (64%) and television (45%).

It is worth mentioning that about 94% of the respondents either most often or often used mobile. Similarly, 53% of the respondents either most often or often used television.

Hence, it could be concluded that for promotion of vegetable crops through mobile and television should be used as communication media.

4.1.14 Technology adoption by the respondents

Frequency distribution of the respondents according to technology adoption is presented in Table 4.1.14 and figure - 13

Table-4.1.14: Frequency distribution of respondents according to technology adoption

(n=100)

(Multiple responses)

S.N.	Particular	Nil adoption		Partial		Full	
		F	%	F	%	F	%
1.	Hybrid variety	03	03	51	51	46	46
2.	FYM/Compost	78	78	13	13	09	09
3.	Bio-fertilizer	94	94	04	04	02	02
4.	Chemical fertilizer	09	09	20	20	71	71
5.	Pesticide	04	04	16	16	80	80
6.	Improve Water mgt.	69	69	24	24	07	07
7.	Water harvesting	80	80	14	14	06	06

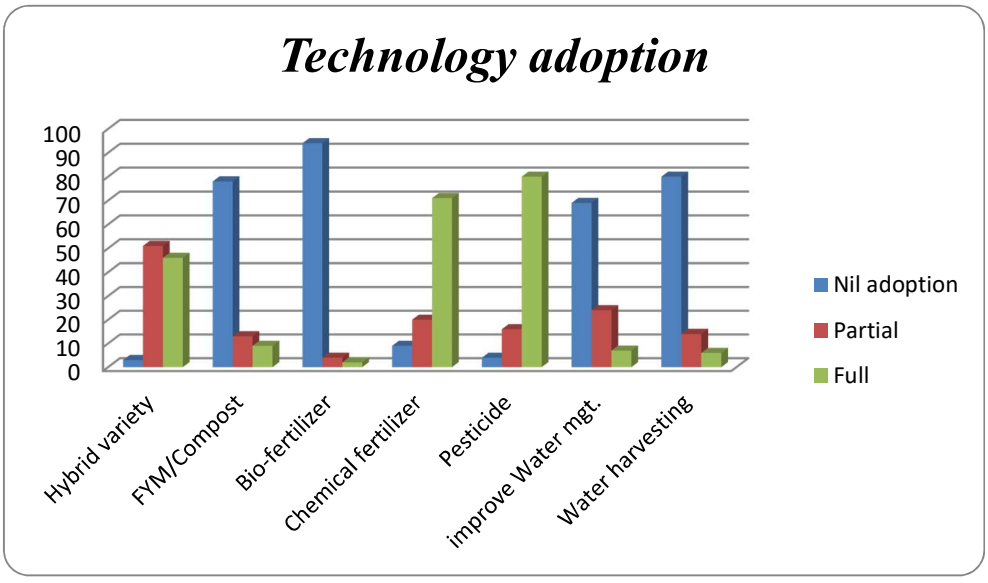


Fig.11 Graph showing the distribution of respondents according to their technology adoption

It is revealed by the table that highest percentage of respondents (80%) had full adoption of pesticide which was followed by chemical fertilizer (71%) and hybrid variety (46%). The other technologies had full adoption by less than (10%) of respondents.

Contrarily, majority of the respondents had nil adoption of technology like- bio-fertilizer (94%), water harvesting (80%), FYM/Compost (78%) and improved water management (69%). It could be concluded that horticulture is promoting chemical which in long run will have negative impact.

4.1.15 Management orientation of the respondents

Frequency distribution of the respondents according to management orientation is presented in Table 4.1.15.

Table 4.1.15: Frequency distribution of respondents according to management orientation (n=100)

S.N.	Category	Frequency	Percentage
1.	Low (Up to 55)	14	14
2.	Medium (56 to59)	77	77
3.	High (60 & Above)	09	09
	Total	100	100

The data presented in the table indicates that majority of the farmers (77%) had medium level of management orientation followed by low (14 %) and high (9 %) level of management orientation. This is conformity with the finding of Mohapatra and Sahu (2012).

The finding led to conclude that there is a scope for improving management orientation of the respondents' trough training.

4.1.16 Innovativeness of the respondents

Frequency distribution of the respondents according to degree of innovativeness is presented in Table 4.1.16.

Table-4.1.16 Frequency distribution of respondents according to degree of innovativeness (n=100)

S.N.	Categories	Frequency	Percentage
1.	Low (Up to 18)	11	11
2.	Medium (19 to 22)	75	75
3.	High (23 and above)	14	14
	Total	100	100

The table indicates that majority of farmers (75%) belonged to medium level of innovativeness followed by high level (14%) and low level (11%). Taking into consideration of education level, the presence of 14% respondents in high innovativeness category is worth appreciating.

4.1.17 Risk orientation

Frequency distribution of the respondents according to risk orientation is presented in Table 4.1.17.

Table-4.1.17 Frequency distribution of respondents according to risk orientation

(n=100)

S.N.	Categories	Frequency	Percentage
1.	Low (Up to 18)	15	15
2.	Medium (19 to 21)	65	65
3.	High (22 and above)	20	20
	Total	100	100

It is evident from the table that 65% of the respondents belonged to medium risk orientation category followed high (20%) and low (15%) risk orientation.

This may be due to the fact that farmers do not have adequate resource to cope with in the case of failure.

4.1.18 Economic motivation of the respondents

Frequency distribution of the respondents according to economic motivation is presented in Table 4.1.18.

Table-4.1.18 Frequency distribution of respondents according to economic motivation

(n=100)

S.N.	Categories	Frequency	Percentage
1.	Low (up to 18)	07	07
2.	Medium (19 to 21)	76	76
3.	High (22 and above)	17	17
	Total	100	100

The table shows that the majority of the farmers (76%) had medium economic motivation followed by high (17%) and low (07%) economic motivation. This is in conformity with the finding of Das (2012).

4.2. Marketing process

4.2.1 Market Place chosen

Frequency distribution of the respondents according to chosen marketing place is presented in Table 4.2.1and Figure – 12.

Table-4.2.1 Frequency distribution of respondents according to chosen marketing place

(n=100)

(Multiple responses)

S.N.	Vegetables	Market place								
		Local						Distant		
		Pithoriya	Ranchi	BIT Mesra	Bodeya	Vikas	Bariyatu	Bengal	Bihar	Odisha
1.	Potato	46	02	49	43	30	04	09	15	00
2.	Tomato	44	02	49	44	30	04	23	16	11
3.	Cauliflower	23	01	47	42	30	04	36	28	27
4.	French beans	40	02	48	41	29	05	14	13	17

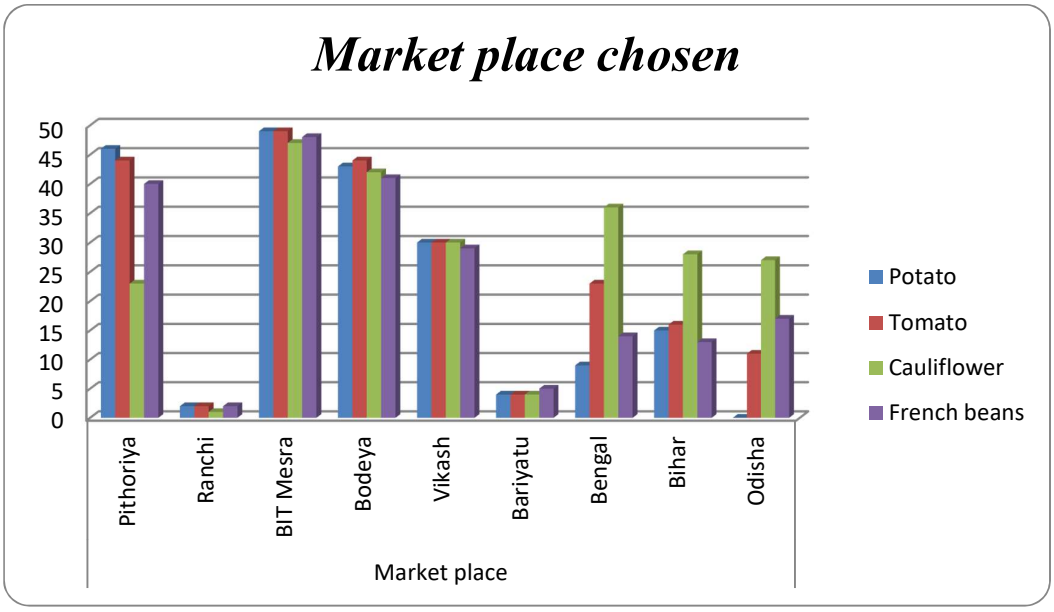


Fig.12 Graph showing the distribution of respondents according to chosen market place

It is revealed by the table that majority of the farmers sold their produce in local market as indicated by 46%, 2%, 49%, 43%, 30% and 4% respondents in uses of the markets like - Pithoriya, Ranchi, BIT Mesra, Bodeya, Vikas and Bariyatu respectively in case of potato.

Similarly, in case of tomato 44%, 25%, 49%, 43%, 30% and 4% farmers sold their produce at Pithoriya, Ranchi, BIT Mesra, Bodeya, Vikas and Bariyatu markets respectively.

Likewise, 23%, 1%, 47%, 42%, 30% and 4% farmers sold their produce at Pithoriya, Ranchi, BIT Mesra, Bodeya, Vikas and Bariyatu respectively in case of califlower.

Altogether 40%, 2%, 48%, 41%, 29% and 5% farmers sold their produce at Pithoriya, Ranchi, BIT Mesra, Bodeya, Vikas and Bariyatu, respectively in case of French bean.

The table indicates that some of the farmers sold their produce in distant market as indicated by 9% and 15% respondents to the markets like Bengal and Bihar, respectively in case of potato.

Similarly, in case of tomato 23%, 16% and 11% farmers sold their produce at Bengal, Bihar and Odisha, respectively.

Likewise,36%, 28% and 27% farmers sold their produce at Bengal, Bihar and Odisha, respectively in case of cauliflower.

Altogether 14%, 13% and 17% farmers sold their produce at Bengal, Bihar and Odisha respectively in case of french-bean.

It could be inferred from the table that tomato and cauliflower have potential for distant marketing.

4.2.2 Marketing mode of the respondents

Frequency distribution of the respondents according to mode of sale is presented in Table 4.2.2 and figure 13.

Table-4.2.2 Frequency distribution of respondents according to mode of sale

(n=100)

S. N	Vegetables	Direct	Mediator	Mixed
1.	Potato	65	15	20
2.	Tomato	68	22	10
3.	Cauliflower	47	31	22
4.	French beans	71	11	18

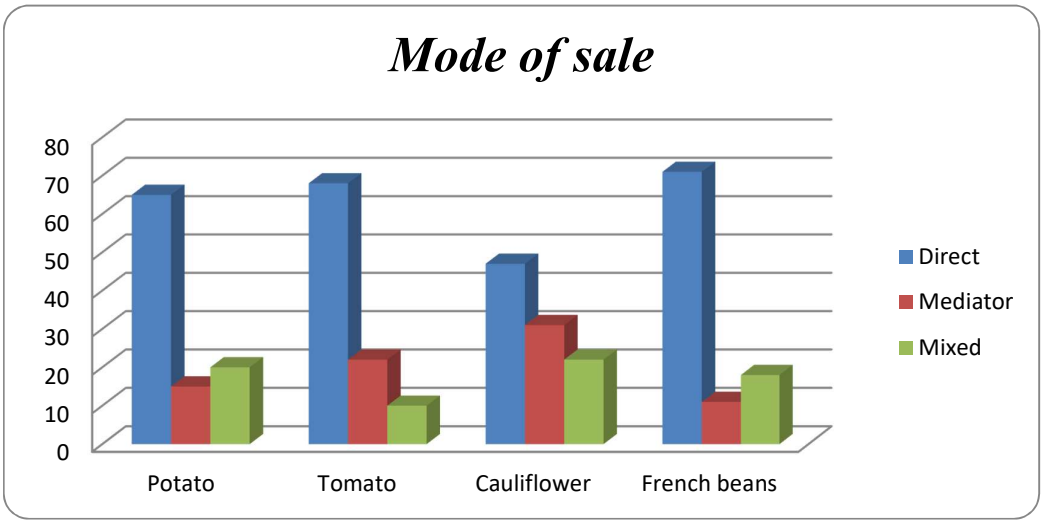


Fig.13 Graph showing the distribution of respondents according to mode of sale

The table shows that majority of the farmers sold their produce directly to the consumer as indicated by 65%, 68%, 47% and 71% respondents in case of potato, tomato, cauliflower and french-bean, respectively.

Similarly some of the farmers sold their produce through mediator as indicated by 15%, 22%, 31% and 11% respondents in case of potato, tomato, cauliflower and french-bean, respectively.

Likewise, some of the farmers adopted both the mode i.e. mixed as indicated by 20%, 22%, 10% and 18% respondents in case of potato, tomato, cauliflower and french-bean, respectively.

4.2.3 Price fixation process

Frequency distribution of the respondents according to price fixation process is presented in Table 4.2.3 and Figure - 14.

Table-4.2.3 Frequency distribution of respondents according to price fixation process

(n=100)

S.N.	Particular	Frequency	Percentage
1.	Negotiation in favour of buyer	82	82
2.	Negotiation in favour of seller	18	18
	Total	100	100

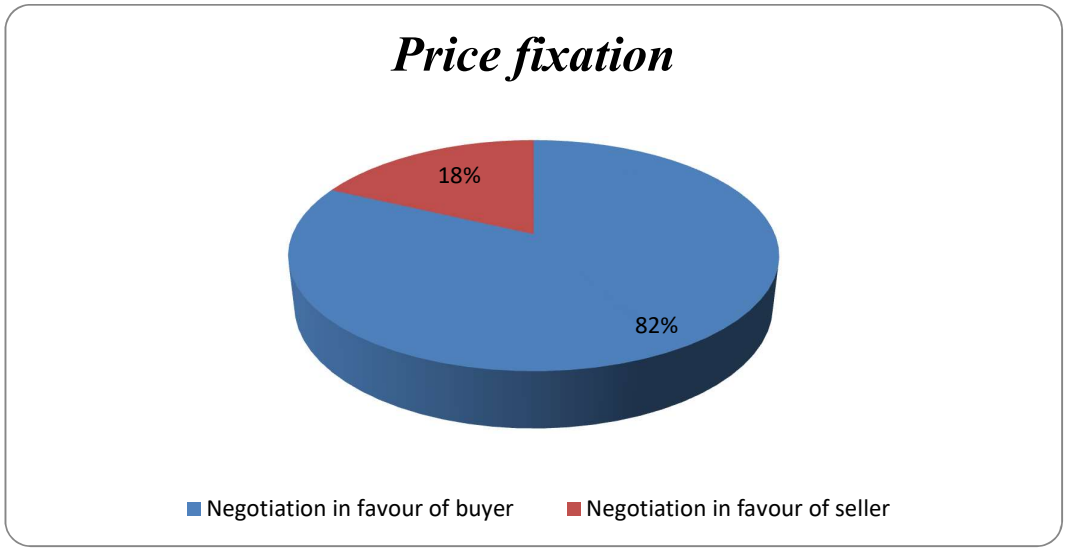


Fig.14 Pie chart showing the distribution of respondents by price fixation

The process of price fixation was conceived in terms of price offered by buyer and seller and negotiation between them. It is indicated by the table that in the opinion of majority of (82%) of the farmers, the price was fixed by negotiations which was favour of buyer. Only in case of 18% of farmers the price negotiations materialized in their favour.

The finding led to infer that there is scope for increasing profit through proper marketing strategy.

4.2.4 Transportation of produce by the respondents

Frequency distribution of the respondents according to transportation of produce is presented in Table 4.2.4 and Figure – 15.

Table-4.2.4 Frequency distribution of respondents according to transportation of produce (n=100)

(Multiple responses)

S.N.	Particular	Frequency	Percentage	Rank
1.	Cycle	94	94	I
2.	Motorcycle	29	29	IV
3.	Tempo	44	44	II
4.	Bus/truck	38	38	III

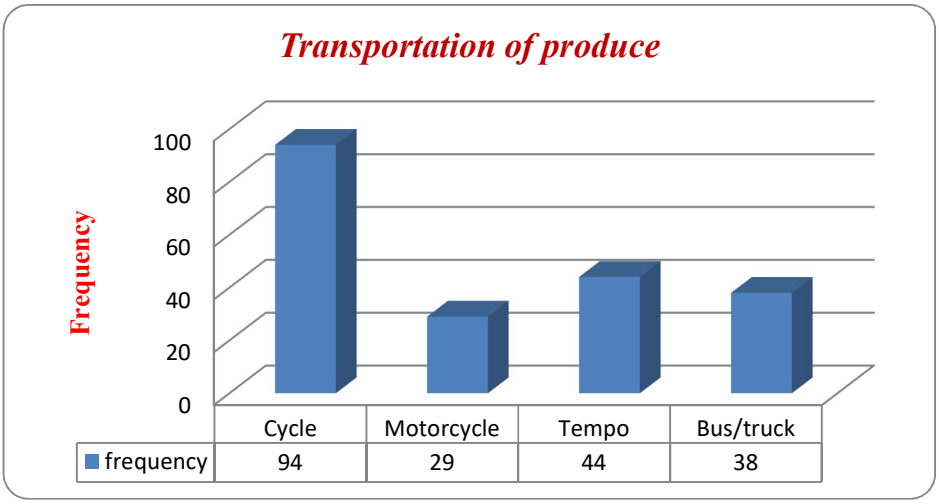


Fig.15 Graph showing the distribution of respondents according to transportation of produce

It is apparent from the table that majority (94%) of the farmers used cycle as means of transport to carry their produce to the markets which was followed by tempo (44%), bus/truck (38%) and motorcycle (29%).

As most of the farmers most of the time sells their produce in local markets hence, they use their personal cycle as primary means of transport which is the cheapest.

4.2.5 Primary processing undertaken by the respondents

Frequency distribution of the respondents with respect to primary processing is presented in Table 4.2.5 and Figure – 16.

Table-4.2.5 Frequency distribution of respondents with respect to primary processing

(n=100)

(Multiple responses)

S.N.	Particular	Frequency	Percentage
1.	Cleaning	29	29
2.	Grading/sorting	24	24
3.	No primary processing	46	46

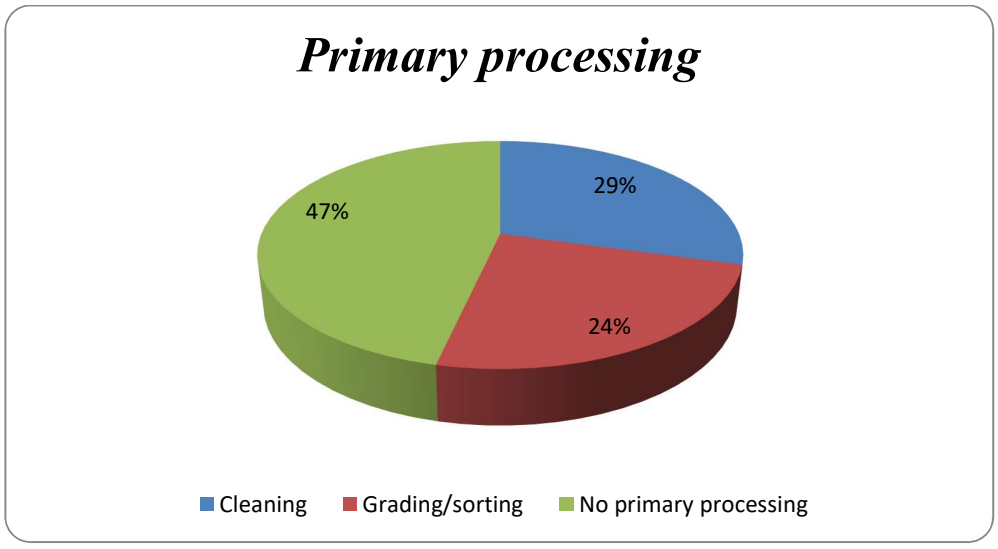


Fig.16 Pie chart showing the distribution of respondents according to primary processing

It is indicated by the table that majority of the farmers (46%) do not adopt any primary processing. Cleaning practice is adopted by (29%) of the respondents which is followed by grading/sorting (24%) of the respondents.

It could be made out from the table that farmers are ignoring the important process of value addition which could have increased their profit margins.

4.2.6 Packaging process undertaken by the respondents

Frequency distribution of the respondents according to packaging of produce is presented in Table 4.2.6 and Figure – 17.

Table-4.2.6 Frequency distribution of respondents with respect to packaging of produce

(n=100)

(Multiple responses)

S.N.	Particular	Frequency	Percentage
1.	No packaging	18	18
2.	Gunny bag	61	61
3.	Bamboo crates	21	24

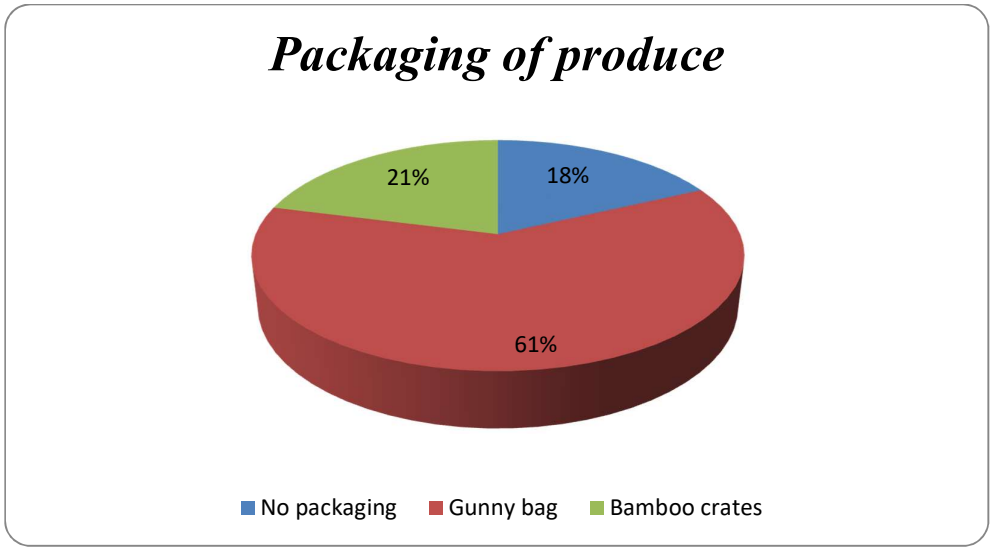


Fig.17 Pie chart showing the distribution of respondents by packaging

It is indicated by the table that majority (61%) of the respondents used gunny bag for packaging of their produce which was followed by bamboo crates (21%). However, 18% of the respondents did not do any packaging.

It could be inferred from the table that there is sufficient scope of value addition in case of packaging of produce.

4.3 Assessment of profit margins in selected vegetables crops

4.3.1 Cost of production and profit of the respondents

Frequency distribution of the respondents according to their cost of production and profit is presented in Table 4.3.1 and Figure – 18.

Table-4.3.1 Frequency distribution of respondents according to their cost of production and profit (n=100)

(Multiple responses)

S.N.	Area (Decimal)	Frequency	Cost of Production Rs/kg	Sale Price Rs/kg	Profit Rs/kg
A.	**Potato**				
	Up to 25	67	09.37	10.52	1.15
	26-50	24	07.82	10.52	02.7
	51-100	09	06.71	10.52	03.81
B.	**Tomato**				
	Up to 25	37	18.12	24.60	06.48
	26-50	52	15.39	24.60	09.21
	51-100	11	12.84	24.60	11.76
C.	**Cauliflower**				
	Up to 25	34	12.64	16.37	03.73
	26-50	54	10.87	16.37	05.50
	51-100	10	08.94	16.37	07.43
	Above 100	02	08.20	16.37	08.17
D.	**French bean**				
	Up to 25	71	12.46	20.16	07.70
	26-50	23	11.17	20.16	08.99
	51-100	06	09.51	20.16	10.65

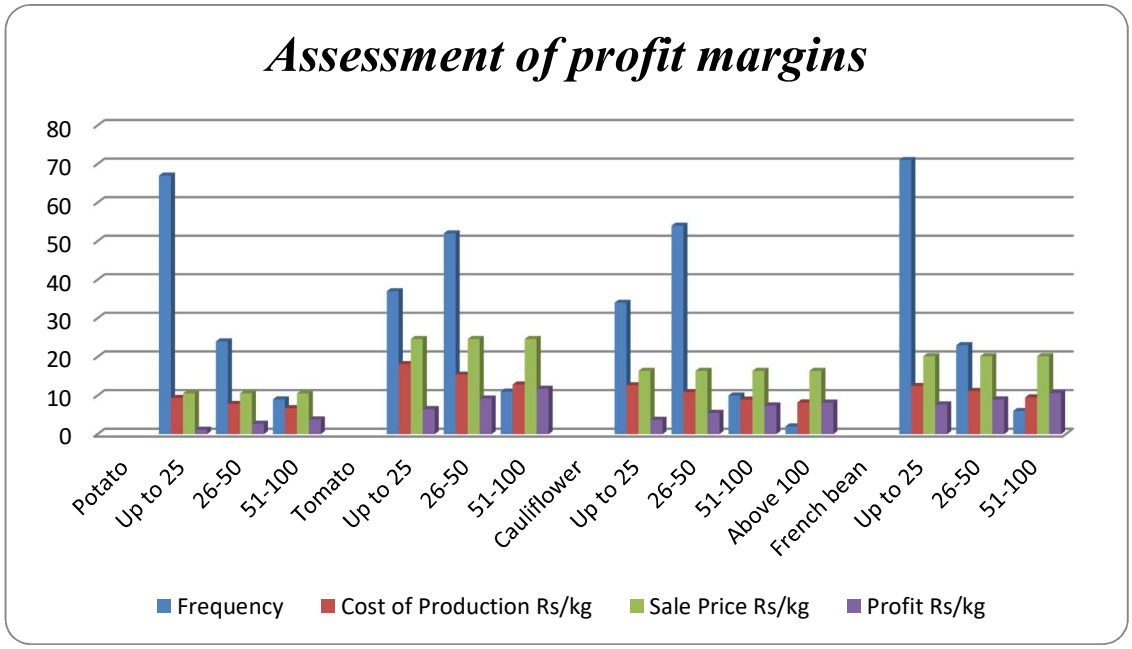


Fig.18 Graph showing the distribution of respondents according to their cost of production and profit

The table indicates that respondents with size of holding up-to 25 decimal incurred the cost of production, sold their produce and earned profit at the rate of Rs. 9.37, Rs. 10.52, and Rs. 1.15 per kg., respectively in case of potato; Rs.18.12, Rs.24.60 and Rs.6.48per kg., respectively in case of tomato; Rs. 12.64, Rs. 16.37 and Rs. 3.73 per kg respectively in case of cauliflower; and Rs. 12.46, Rs. 20.16 and Rs. 7.70, respectively in case of french bean.

Similarly, the farmers with the size of holding between 26-50 decimal incurred the cost of production, sold their produce and earned profit at the rate of Rs. 7.82, Rs. 10.52, and Rs. 2.70 per kg., respectively in case of potato; Rs.15.39, Rs.24.60 and Rs.9.21, per kg., respectively in case of tomato; Rs. 10.87, Rs. 16.37 and Rs. 5.50 per kg., respectively in case of cauliflower; and Rs. 11.17, Rs. 20.16 and Rs. 8.99 respectively in case of French bean.

Likewise, the farmers with the size of holding between 51-100 decimal incurred the cost of production, sold their produce and earned profit at the rate of Rs. 6.71, Rs. 10.52, and Rs. 3.81 per kg., respectively in case of potato; Rs.12.84, Rs.24.60 and Rs.11.76, respectively in case of tomato; Rs. 8.94, Rs. 16.37 and Rs. 7.43 per kg., respectively in case of cauliflower; and Rs. 9.51, Rs. 20.16 and Rs. 10.65, respectively in case of french bean.

The above table shows that the farmers with the size of holding above100 decimal incurred the cost of production, sold their produce and earned profit at the rate of Rs. 8.20, Rs. 16.37, and Rs. 8.17 per kg., respectively in case of only cauliflower.

It could be concluded from foregoing that by and large the farmers earn higher profit in case of tomato and French bean whereas potato was found to be the least profit earning vegetable crop.

4.1.2 Suitable measures for enhancing marketing efficiencies and profit margin

Frequency distribution of the respondents according to their Suitable measures is presented in Table 4.3.2 and Figure – 19.

Table-4.4.2 frequency distribution of respondents with respect to their suitable measures (n=100)

(Multiple responses)

S.N.	Strategies	Frequency	Percentage	Rank
A.	**Measures**			
1.	Training on primary and secondary processing	61	61	IV
2.	Cold storage facilities	74	74	I
3.	Subsidy on transportation vehicle	18	18	VIII
4.	Promotion of FPOs	28	28	VII
5.	Procurement price for vegetables	69	69	II
6.	Market information and intelligence	66	66	III
7.	Facilities in market	38	38	VI
8.	Subsidy on packaging material	51	51	V

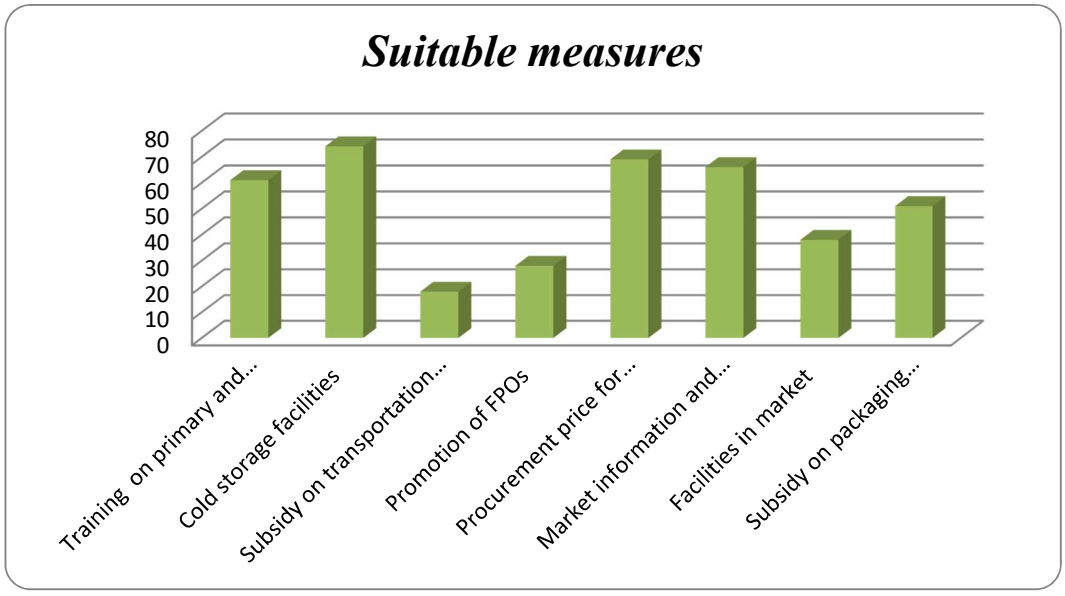


Fig.19 Graph showing distribution of respondents according to their suitable measures

It is indicated by the table that majority (74%) of the farmers suggested about cold storage facilities which was followed by procurement price for vegetable 69%, market information and intelligence (66%) , training on primary and secondary processing (61%), subsidy on packaging material (51%), facilities in market 38%, promotion of FPO (28%) and subsidy on transportation vehicle (18%).

It could be inferred from table that cold storage is the need of the hour to save post harvest losses which ultimately reduces profit margins of the farmers. Till now there has not been any procurement price for vegetables due to which the intermediaries exploit the farmers ruthlessly. Knowledge and awareness about primary and secondary processing can enable the farmers to add value to their produce. The researcher has observed that farmers are not using any standard packaging material which could save losses in transportation and increase the shelf life of the produce. Hence, it is urgently needed to provide subsidy on packaging material. Farmers sell their vegetable at village hats, road side and thela which are under the knowledge of administrations. Therefore, minimum facilities are required to be provided at these places. It has emerged from the study that individual growers mostly use personal cycle and motorcycle as means of transport. Hence, subsidies need to be provided on transportation vehicles. Large producer has the potential to increase the bargaining power of the farmers at the same time. The produce can be taken to distant market. This is possible through farmers Organization like FPOs.

CHAPTER-5

SUMMARY & CONCLUSION

CHAPTER- 5

SUMMARY AND CONCLUSION

Vegetables are the essential items in everyday meals as they contain all the required nutrients for a balanced diet. The vegetables also have medicinal and aesthetic value. The State of Jharkhand is endowed with a conductive condition for cultivation of a variety of horticultural crops. The wide product base, high volume of round the year production, strategic geographical location and high domestic demand automatically project horticulture as the thrust area. The horticultural produce including off season vegetables from the state are being preferred in the neighbouring states for their quality and time of availability. It is as important for a grower to develop a marketing strategy as it for a large corporation. Growers marketing strategies can be broken down into four broad categories: Marketing method – deciding where to market**,** Product decision – deciding what and when to produce Pricing strategies – realizing the potential Merchandising – making the most of the marketing payoff. It is common knowledge that farmers do not get adequate share in consumer's rupee. Moreover, vegetable being commercial crops must fetch sufficient income to the farmers.

In the backdrop of market-led extension and doubling income of the farmers, a Study on ***"Marketing Strategy of Vegetable Growers in Ranchi District of Jharkhand"*** has been planned with the following specific objectives:-

Specific objectives:

1. To study socio- economic profile of vegetable growers
2. To study marketing process
3. To assess profit margins in selected vegetables crops
4. To suggest suitable measures for enhancing marketing efficiency and profit margin of the farmers.

Methodology

The study was conducted in Ranchi district of Jharkhand state as it is the leading district in terms of total area under vegetables in the state. The district Ranchi comprises 20 community development blocks, out of which only Kanke block was selected randomly for the purpose of study. Two villages namely Pithoriya and Rendo were selected. Fifty vegetable growers from each village were selected randomly. Thus the sample constituted

100 respondents. The variables like-age, gender, education, size of holding, communication behaviour, irrigation potential, technology adoption, occupation, income, farming experience, training exposure, management orientation, innovativeness, risk orientation, economic motivation, primary processing, packaging, transportation, cost of production and profit were selected as variables under the study. These were measured with the indices already developed or developed under the study.

Salient findings

- Majority of the respondents were male (98%) whereas the only (2%) respondents were found to be female.
- Maximum numbers of respondents (52%) were in middle age category followed by young (22%) and old (26%).
- Altogether 36% respondents were illiterate while 64% respondents were literate. Further, the educational levels of literate farmers in descending order were: high school (20%), intermediate (16%) primary school (15%), middle school (07%), can read and write (04%), and graduate (02%).
- Majority of the farmers (66%) belonged to nuclear family while the rest (34%) belonged to joint family.
- Majority of the farmers had small family size i.e. up to 6 members (59%) followed by medium size i.e. 7-13 members (40%) and large size i.e. 14 members and above (01%).
- Majority of the respondents (41%) were small farmers followed by marginal farmers (37%), Semi-Medium farmers (13%) and medium farmers (09%).
- Majority of the respondents, possessed mixed type of house (40%) followed by Kaccha (34%) and Pucca (26%) type of house.
- Majority of the respondents (61%) had irrigated area 51 % and above followed by 26-50 % (26%) and up to 25 % (13%).
- Majority of the farmers (50%) reported Agriculture + Labour agriculture as their occupation followed by Agriculture (39 %), Business+ Agriculture (07%) and Agriculture + Animal Husbandry (04%).
- Majority of the farmers (34%) had annual income in the range of Rs. 60,001 to Rs. 90,000 followed by Rs. 90,001 and above (31%), Rs. 30,001 to 60,000 (30%) and up to 30,000 (05%).

- Majority of farmers (47%) had high level of farming experience followed by medium (34%) and low (19%) level of farming experience.
- Majority of the respondents (61%) were untrained followed by respondents with ≥ 2 and < 5 days' training (14%), above 7 days' training (14%) 1-day training (06%), 5-7 days' training (05%).
- Mobile is most often used by (44%) of the respondents which is followed by television (30%), newspaper (10%) and internet (7%). Contrarily, 82% of the respondents never used radio which was followed by internet (72%), newspaper (64%) and television (45%).
- Highest percentage of respondents (80%) had full adoption of pesticide which was followed by chemical fertilizer (71%) and hybrid variety (46%). The other technologies had full adoption by less than (10%) of respondents.
- Majority of the farmers (77%) had medium level of management orientation followed by low (14 %) and high (9 %) level of management orientation.
- Majority of farmers (75%) belonged to medium level of innovativeness followed by high level (14%) and low level (11%).
- Majority (65%) of respondents belonged to medium risk orientation category followed high (20%) and low (15%) risk orientation.
- The majority of the farmers (76%) had medium economic motivation followed by high (17%) and low (07%) economic motivation.
- Majority of the farmers sold their produce in local market as indicated by 46%, 2%, 49%, 43%, 30% and 4% respondents to the markets like - Pithoriya, Ranchi, BIT Mesra, Bodeya, Vikas and Bariyatu respectively in case of potato.
- Altogether 14%, 13% and 17% farmers sold their produce at Bengal, Bihar and Odisha respectively in case of French bean.
- Majority of the farmers sold their produce directly to the consumer as indicated by 65%, 68%, 47% and 71% respondents in case of potato, tomato, cauliflower and French-beans respectively.
- Majority (82%) of the farmers, fixed the price by negotiations which was in favour of buyer. Only in case of 18% of farmers the price negotiations materialized in favour of farmers.
- Majority (94%) of the farmers used cycle as means of transport to carry their produce to the markets which was followed by tempo (44%), bus/truck (38%) and motorcycle (29%).

- Majority of the farmers (46%) did not adopt any primary processing. Cleaning practice was adopted by (29%) of the respondents which is followed by grading/sorting (24%) of the respondents.
- Majority (61%) of the respondents used gunny bag for packaging of their produce which was followed by bamboo crates (21%).
- Farmers with size of holdings up-to 25 decimal incurred the cost of production, sold their produce and earned profit at the rate of Rs. 9.37, Rs. 10.52, and Rs. 1.15 per kg. respectively in case of potato, Rs.18.12, Rs.24.60 and Rs.6.48 respectively in case of tomato' Rs. 12.64, Rs. 16.37 and Rs. 3.73 per kg respectively in case of cauliflower and Rs. 12.46, Rs. 20.16 and Rs. 7.70 respectively in case of French bean.
- Farmers with size of holdings between 26-50 decimal incurred the cost of production, sold their produce and earned profit at the rate of Rs. 7.82, Rs. 10.52, and Rs. 2.70 per kg., respectively in case of potato; Rs.15.39, Rs.24.60 and Rs.9.21, per kg., respectively in case of tomato; Rs. 10.87, Rs. 16.37 and Rs. 5.50 per kg., respectively in case of cauliflower; and Rs. 11.17, Rs. 20.16 and Rs. 8.99 respectively in case of French bean.
- Farmers with the size of holding between 51-100 decimal incurred the cost of production, sold their produce and earned profit at the rate of Rs. 6.71, Rs. 10.52, and Rs. 3.81 per kg., respectively in case of potato; Rs.12.84, Rs.24.60 and Rs.11.76, respectively in case of tomato; Rs. 8.94, Rs. 16.37 and Rs. 7.43 per kg., respectively in case of cauliflower; and Rs. 9.51, Rs. 20.16 and Rs. 10.65, respectively in case of french bean.
- Farmers with the size of holding above100 decimal incurred the cost of production, sold their produce and earned profit at the rate of Rs. 8.20, Rs. 16.37, and Rs. 8.17 per kg., respectively in case of only cauliflower.
- Majority (74%) of the farmers suggested about cold storage facilities which was followed by procurement price for vegetable 69%, market information and intelligence (66%) , training on primary and secondary processing (61%), subsidy on packaging material (51%), facilities in market 38%, promotion of FPO 28% and subsidy on transportation vehicle (18%).

Conclusions

The finding of the study lead to conclude that majority of the farmers belonged to middle and old age group, were marginal and small farmers and had agriculture along with labour as

primary occupation. However, the income range of majority of the farmers can be said to be satisfactory. The respondents had almost no training experience. Mobile and television have emerged as important communication media which can be used in agriculture extension. Adoption of type of technology clearly indicated that horticulture is moving towards chemical farming which may have negative impact in future. Majority of the farmers had medium level of management orientation, innovativeness, risk orientation and economic motivation. Major parts of the vegetables are sold in local markets; however, cauliflower and tomato are taken to distant market in substantial quantity. Majority of the farmers were found to be producer-seller who sold the product directly to the consumer. Price fixation was skewed in favour of buyer as majority of the farmers did not adopt any grading/sorting and used old practices of processing. Profit margin of the large growers was found higher in most of the vegetables crops. The suitable measure could be the promotion of cold storage facilities, procurement price for vegetables as well as market information and intelligence.

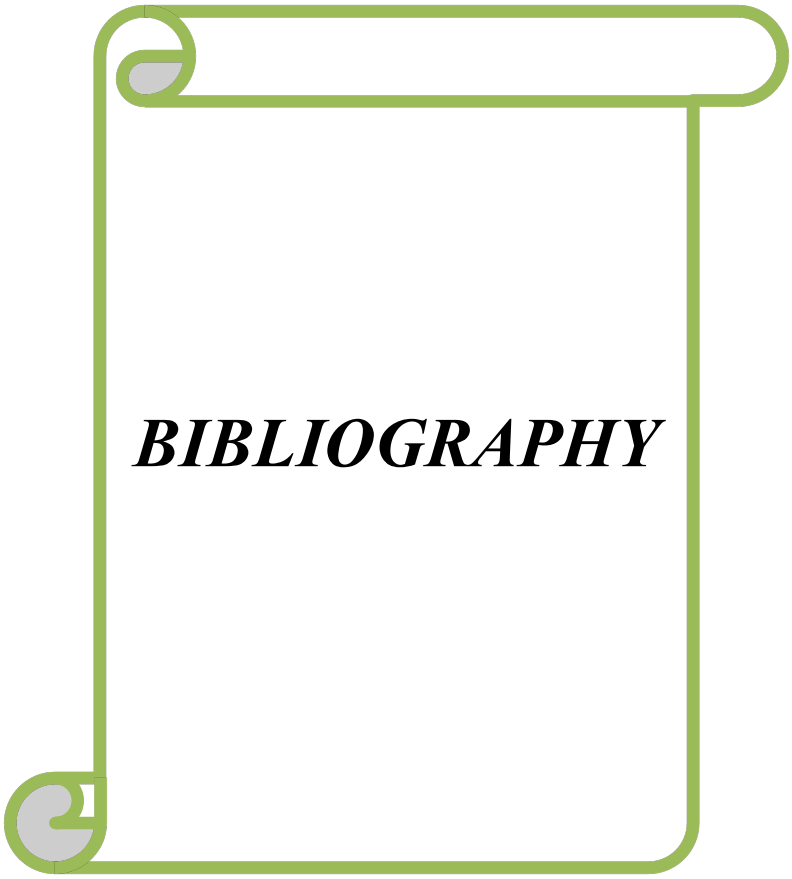
Suggestions

Based on findings of the study following strategies are suggested for adoption and application by the stakeholders.

1. Infrastructural facilities at market place including rural hatts, weekly markets and roadsides should be developed along with a chain of cold storage for reducing post harvest losses and adding value to the produce so that vegetable growers could get higher price.
2. To reduce cost of marketing and increase shelf life, subsidies should be provided on transportation vehicles and packaging material.
3. Farmer should be organized into farmer's organizations to increase bargaining power and exploiting distant market including export market for vegetable produce.
4. Information on current market price, price analysis and price forecast through mobile, television and internet should be provided to the farmers to facilitate them in crop planning and fetching higher price of their produce.
5. Training on primary and secondary processing should be arranged by the Department of Agriculture and State Agriculture University so that shelf life of the produce could be increased thereby enriching pockets of the farmers.

Implications

The study has implications for all the stakeholders of horticulture sector. It has implications for the farmers with respect to primary processing, price fixation, mode of marketing and place of market. For state agriculture university and ICAR (Indian Council of Agriculture Research) institutes, the study has implication on knowledge and skill development on the areas of primary and secondary processing, market information, price analysis and price forecast. Department of Agriculture and Co-operative can take advantage of findings of the studies in the areas of infrastructural bottlenecks and subsidy on transport vehicle and packaging materials.



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APPENDICES

Interview schedule

On

Marketing strategy of vegetable Growers: A Study in Ranchi district of Jharkhand state

GENERAL INFORMATIONS:

Name of village……..

Post……..

Block…….

Name of respondent……*S/O*……

1. **Gender:** M / F
2. **Age:** …….Years
3. **Education:**

Illiterate	Can read & write	Primary school	Junior school	High school	Intermediate	Under graduate

4. **Occupation:**

S.N.	Occupation	Yes/No
1.	Agriculture	
2.	Agriculture + Labour	
3.	Agriculture + Animal Husbandry	
4.	Agriculture + Caste based occupation	
5.	Business + Agriculture	
6.	Service + Agriculture	

5. **Family Type:** I) Nuclear ☐ II) Joint ☐
6. **Family size** (Total Family Members):I) Male ☐ II) Female ☐
7. **Housing pattern** I) Hut ☐ II) Kaccha ☐ III) Mixed ☐ IV) Pucca ☐
8. **Land holding** I)Up to 1 hectare ☐ II) 1-2 hectare ☐ III) 2-4 hectare ☐ IV) above 4 hectare ☐
9. **Percentage irrigated area: -** ……..
10. **Estimated Annual Income:**

S.N.	Source of Income	Rs
1.	Income from farming (What is price of crops sold in one year)	
2.	Income from business	
3.	Income from service	
4.	Income from labour	
5.	Income from Dairy	
6.	Income from other services	
	Total	

11. Farming experience: …… years

12. Training Exposure:

The training exposure refers to the number of times a respondents has undergone training. Please tell how many times you have attended?

a) Untrained:

b) 1 day training:

c) 2-3 days training:

d) 5-7 days training:

e) Above 7 days' training:

13. Technology Adoption:

S.N.	Variety	Partial	Full
1	Hybrid Variety		
2	FYM/Compost		
3	Bio fertilizer		
4	Chemical fertilizer		
5	Pesticide		
6	Improve water management		
7	Harvesting		

14. Communication Behaviour:

S.N	Source	Most often	Often	Sometimes	Never
1	Television (T.V.)				
2	Radio				
3	Newspaper				
4	Mobile				
5	Internet				

15. Management Orientation:

The following are some statement representing the management orientation. Please state the degree of your agreement or disagreement with each of them.

A. Planning Orientation:

S.N.	Statements	Strongly Agree	Agree	U. D	Disagree	Strongly Disagree
1	Everyone should think about the income generating activity available to their areas					
2	The amount of inputs needed for the economic activity should be assessed well in advance					
3	It is not necessary to make prior decision about the step to be followed in taking up economic activity					
4	is not necessary to think ahead the total cost involved in income generating activity					
5	One should not consult expert and experienced persons for planning the economic activity					
6	It is possible to increase the returns through Farm production plans.					

B. Production Orientation:

S.N.	Statements	Strongly Agree	Agree	U. D.	Disagree	Strongly Disagree
1	Timely planning of economic activity will yield good result.					
2	For solving problem one should use appropriate problem solving technique.					
3	One should invest as much he/she likes in taking up any economic activity.					
4	Economic activities should be adopted as recommended by specialist.					
5	With less input, one can produce much quality goods as possible.					
6	Lower investment with higher returns.					

C. Marketing Orientation:

S.N.	Statements	Strongly Agree	Agree	U. D.	Disagree	Strongly Disagree
1	Marketing news is not so much useful to farmers.					
2	A farmer can get a good price by producing good quality products.					
3	Better marketing facilities can help the farmer to get better price for his product.					
4	One should sell his products to the nearest market irrespective of price.					
5	One should purchase the inputs from the nearest shop where other entrepreneur purchase.					
6	One should produce items which is more in market demand.					

16. Innovativeness:

The following statements are related to Innovativeness. Please, give your extent of agreement/disagreement about each statement

S. No.	Statements	A.	U.D.	D.A.
1	A new idea must be tried at the first instance			
2	One should strive for a change in the existing farming system to raise the level of living			
3	An experienced farming experiment with new idea in farming			
4	New methods of farming give better results than old methods			
5	One should take risk in trying a new method			
6	One should try a new method only when village leader advocate them			
7	It is not advisable to try a new idea because of risk factor			
8	A well-established farmers should not change his existing farming system			
9	A good farmer always follows his fore father's way of farming			
10	It is better to try new farming after most other farmers have used them with success			

17. **Risk orientation:**

Please indicate whether you are agree or disagree with the following statements

S.N.	Statements	SA	A	D	A	DA
1	Farmer should rather take more chance to have a big profit than to be content with unrisky smaller profit.					
2	It is a good for farmer to take risks when he knows that his chance of success is fairly high.					
3	A farmer who is willing to take greater risks than the average farmer usually does better financially					
4	Trying entirely new methods in farming by a farmer though, involves risk, but it is worthwhile.					
5	A farmer should grow larger number of crops to avoid greater risk involved in growing one or two crops.					
6	It is a better for a farmer not to try new farming methods unless proved and found better by other farmers.					

18. Economic motivation:

The following statements are related to economic motivation. Please give your statement of agreement/disagreement about each statement.

S. No.	Statements	SA	A	UD	DA	SDA
1	A farmer should work hard towards larger yield of economic profits.					
2	The most successful farmer is the one who makes more profits.					
3	A farmer should try any new farming which may earn more money.					
4	A farmer should grow cash crops to increase profit in comparison to growing of food crops for home consumption.					
5	It is difficult for the farmers to make good start unless being provided the economic assistance.					
6	A farmer must earn his living, but the most important thing is that the life cannot be defined in economic terms.					

S.A. –Strongly agrees **A. –Agree** **U.D.–Undecided,**

S.D.A. –Strongly disagree **D.A.–Disagree**

Part-II	Marketing Process

Information on marketing process of vegetables growers:

1. **Marketing Process;**

S.N.	Vegetable	Place	Price (Rs/Kg)	Mediator	Direct
1	Potato				
2	Tomato				
3	Cauliflower				
4	French beans				

2. **Cost of production and profit:**

S.N.	Vegetable	Area	Cost of cultivation	Sale price	Profit
1	Potato				
2	Tomato				
3	Cauliflower				
4	French beans				

3. **Price fixation:**
   a) Negotiation in favour of buyer ☐
   b) Negotiation in favour of seller ☐

4. **Transportation:**

S.N	Types	Yes/No
1	Cycle	
2	Motor cycle	
3	Tempo	
4	Jeep	
5	Bus/truck	

5. **Do you do primary processing…?**Yes/No
   (i) Cleaning ☐
   (ii) Grading/sorting ☐
   (iii) Other (please specify); ……..

6. **Packaging:**
   (i) Open ☐
   (ii) Gunny bag ☐
   (iii) Wooden crates ☐
   (iv) Plastic crates ☐
   (v) Other (please specify); ……..
   (vi)

Part-III Suitable measures for enhancing marketing efficiencies and profit margin

Do you consider following suggestion as suitable measures for vegetable growing and marketing?

Yes / No, if yes, please indicate them:

S.N.	Measures	Yes/No
1.	Training on primary and secondary processing	
2.	Cold storage facilities	
3.	Subsidy on transportation vehicle	
4.	Promotion of FPOs	
5.	Procurement price for vegetables	
6.	Market information and intelligence	
7.	Facilities in market	
8.	Subsidy on packaging material	