5. DISCUSSION

The results of the investigation presented in the result chapter are discussed in detail in this chapter. The main focus here is to throw light on some of the causes responsible for the major findings observed in the study. This kind of analysis is hoped to identify such of the policy measures and execute corrections that can be implemented to overcome the constraints encountered by organic vegetable growers. Keeping in view the objectives of the study the results are discussed under the following heads.

5.1 Adoption of organic production practices being followed by organic vegetable growers.

5.2 To examine the socio-economic characteristics of organic vegetable growers

5.3 Various marketing channels for selected organic vegetables

5.4 Assess the consumer awareness and preference towards organic vegetables

5.5 Constraints in production and marketing of organic vegetable growers and their suggestion

5.1 ADOPTION OF ORGANIC PRODUCTION PRACTICES IN VEGETABLES

The details of organic production practices being followed by the organic vegetable growers have been grouped under the components like adoption of seedlings preparation practices in tomato, adoption of agronomic practices in tomato and potato, adoption of soil fertility management in tomato and potato, practices in management of pest and disease in tomato and potato, adoption of weed management practices and adoption of post–harvest management practices in tomato and potato. These practices were explained separately under different headings for the selected organic vegetables.

5.1.1 Adoption of organic production practices in tomato crop

5.1.1.1 Adoption of seedling preparation practices in tomato

The data depicted in Table 4.1 and Figure 2 revealed that adoption of seedling preparation practices in cultivation of the organic tomato crop. It was noticed that 93.33...
per cent of the respondent farmers adopted the raised bed method followed by flatbed 6.66 per cent; the flatbed is prone to water logging and thus seedlings gets decay and not recommended during rainy season. 91.66 percent of the farmers expressed that raise the beds with 1m width and 3 m length with a height of 20 cm, the raised bed is followed because the seeds used for raising the seedlings are very cost and also raised bed will allow to seedlings roots to grow and expand above water logged or compacted soils resulting in healthier and more vigorous seedlings growth. It was found that 76.66 per cent of the farmers to practices breaking of clods and bring the beds to a fine tilth and also they used to expose the beds for high temperature (solarisation) to prevent pest and diseases and also fine tilth will help for the good and uniform germination of the seedlings. It was noticed that 80 per cent of the respondent farmers were practiced to applied 20-25 kg well decomposed FYM, *Trichoderma harzianum* @ 4 g/kg of FYM and 1-2 kg of neem cake per bed because neem cake has an adequate quantity of NPK in organic form for seedlings growth and protects seedlings roots from nematodes, soil grubs and ants etc.

It was noticed that 96.66 per cent of the farmers found to practice seed rate around 120-150 g/acre according to package of practices for raising the healthy seedlings. 80.00 per cent of the farmers were found to treat the seedlings with fungal culture of *Trichoderma viridea* @ 1 g/150 g of seeds and 4-5% of the panchagavya because treatment of seedlings to protect them against soil and seed borne disease and pests and to improve initial growth of seedlings. It was found that 93.33 per cent of the farmers were used to sow the seeds thinly in line spaced at 5-10 cm distance with 2 cm spacing between successive seeds at depth of 1-2 cm, then covered with fine layer of soil followed by light watering according to the package of practice suggested by the agricultural university experts to get uniform germination for transplanting to the main field. It was found that 78.33 per cent of the farmers covered the bed with the dry straw or grass or sugarcane straw or with thin nylon net to maintain the required temperature and moisture. It was found that 73.33 per cent of the respondent farmers were used to transplant 20- 25 days old seedlings to the main field because transplanting of only healthy seedlings are selected and planted at proper spacing to penetrate of roots in the soil, better development of shoot system and ensure uniform availability of water, nutrients and sunlight to the tomato crop.
5.1.1.2 Adoption of agronomic practices in tomato

It was noticed in Table 4.2 that 95 per cent of the respondent farmers were adopted the land ploughing and harrowed around 3-4 times to obtain a fine tilth. It helps to prevent the pest and disease and also increases the water holding capacity of the soil. 86.66 per cent of the farmers were transplanting the seedlings preferably in the evening time because evening is the best time for the transplantation as it helps in the establishing the transplanted plant as the temperature and moisture will be optimum. 83.33 per cent of the respondent farmers used the correct rate of seedlings i.e. seedling @ 7-8 thousand per acre to get uniform growth of the plant and better yield. The most of the farmers were sow the tomato crop in the Kharif season (53.33%) followed by Rabi (30.00%) and Summer season (16.66%). It was noticed that 86.66 per cent of the farmers were used to dip the roots of tomato seedling in suspension of 1-2 kg of Azatobacter or Azospirillum and PSB per 5-10 liter of water for 20-30 minutes before transplanting to the main field to prevent seed and soil borne diseases. It was noticed that 78.33 per cent of the farmers were practices the transplanting the seedling to the main field with spacing of 60-70 cm between rows and 50-60 cm between successive plants, because the process of transplantation enables farmers to plant the seedlings at the right spacing so as to ensure uniform availability of water, nutrients and sunlight to the tomato crop. In case of cropping pattern, the respondent farmers used to practice both sole cropping and intercropping. There were 90 per cent farmers were following practices of sole cropping to avoid the decrease of yield and also harvesting is difficult, whereas 10 per cent farmers were following practices of intercropping with soybean and cotton, it may be reduction in soil runoff and controls weeds. Cent per cent of the respondent farmers followed that practices of gap filling at 7-10 days after transplanting to utilize the land sufficiently by absorption nutrients from the soil. It was noticed that 70 per cent of the farmers were used drip/ sprinkler irrigation because as you know, now days water scarcity is increasing day by day, so that proper utilization of water, farmers adopted practices of drip/sprinkler method of irrigation, and only 30 percent of the farmers were followed practices of flatbed or furrow irrigation method, because some farmers have sufficient water resources, so that they adopted flatbed/furrow method of irrigation. It was noticed that 66.66 per cent of the farmers were adopted the practices of irrigate the crop land at an interval of 3-4 days for first month after transplanting and
then at every 5-7 days interval until crop completion to maintain uniform soil moisture and make availability of nutrients to the tomato till completion of the crop.

5.1.1.3 Adoption of soil fertility management practices in tomato

The adoption of various components of soil fertility management practices followed by the organic vegetable growers is presented Table 4.3 and Figure 4.

Application of green manuring in tomato

It was noticed that 93.33 per cent of the farmers were adopted to practice green manure like sunhemp and sesbania rostrata etc, because green manure add organic matter to soil, which stimulates the activity of soil microorganisms and also it improve the structure of soil, and increase water and nutrient holding capacity of soil. It was found that 80 per cent of the farmers to apply green leaf manure like gliricidia and pongamia glabra for their crop land to improve the soil fertility and it will helps to retain soil moisture even soil moisture during the staggered rainfall during the kharif season, rabi season and summer seasons will helps to hold moisture as the crop will not be suffered from the moisture stress.

Application of organic manure in tomato

It was found that cent per cent of the organic vegetable growers applied recommended quantity of farm yard manure (5-10 t/acre) once in a year for tomato crop. Similarly high per cent of farmers (81.66%) were practicing application of vermicompost @ 2-3 t/acre at the time of ploughing because farmyard manure and compost are important to improve and maintain soil fertility and to provide a base supply of nutrients to the tomato crop.

Application of bio-fertilizers in tomato

Application of various types of bio fertilizers i.e., Azospirillum @ 1 kg/acre for soil application was found with 65 per cent of the respondent farmers because it is one of the most well studied plant growth promoting bacteria, so that it is considered a free-living soil bacterium that has the ability of nitrogen fixation. Application of phosphate solubilises bacteria (PSB) @ 1 kg/acre for improving the soil fertility as per
recommended was noticed among 63.33 per cent of the organic vegetable farmers. There were 56.66 percent of the farmers found to use of neem cake @ 250 kg /acre while forming ridges because neem cake is used as good organic manure in organic tomato farming and also act as repellent and helps in protecting the tomato against parasitic nematodes. It was noticed that 55 per cent of the organic vegetable growers used to apply the Jeevamruta (mix cow dung 10 kg, cow urine 10 litre, jaggary 2 kg, any pulse grain flour 2 Kg and live soil 1 Kg in 200 lit of water) along with irrigation water to improve the soil fertility. There were 48.33 per cent of the respondent farmers found to spray 3-5% of panchagavya (Mix fresh cow dung 5 kg, cow urine 3 lit, cow milk 2 lit, curd 2 lit, ghee 1 kg and ferment for 7 days) over soil for improving the soil fertility. There were 81.66 per cent of the organic vegetable growers found to maintain optimum soil moisture to avoid leaching and mobility of nutrients and there were high per cent of the farmers (93.33%) used to incorporate the crop residues like wheat straw/soybean etc. into the soil to improve the water holding capacity and the soil fertility.

5.1.1.4 Adoption of organic method of management of pest and disease in tomato

The data depicted in Table 4.4 and Figure 5 revealed that adoption of management of pest and disease by cultural practices, mechanical practices and use of bio pesticides.

Major pest and diseases observed in tomato

It was observed that there were 88.33 per cent farmer’s field affected by the major pests like fruit borer, white flies and aphids. On the other hand there were 85 per cent farmers whose field crop was affected by the major disease like leaf curl, fusarium wilt and blight.

Cultural practices in tomato

The cent per cent of the farmers practicing the deep summer ploughing and crop rotation with non solanaceous crops like pulses/legumes for breaking the life cycle of the insects and pests. Similarly high per cent of the farmers (81.66%) use the trap crop like marigold to attract the tomato fruit borer. There were 75.55 per cent of the farmers used to sow the entire block in time to get uniform germination and higher yield.
Mechanical practices in tomato

It was noticed that 91.6 per cent of the respondent farmer’s collection and destruction of affected plants and shoots. Similarly, 73.3 per cent of the farmers were found to adopt uprooting of alternate host plants. It is best method to control the pest and disease as it removes the primary culture, removal of the allotted host helps to combat the pests in the initial levels. It was noticed that 65 per cent of the farmers practiced that collection and destruction of egg masses and larva. It was found 51.6 per cent of the respondent farmers were found to use pheromone trap in the organic tomato field around 2-3 acre. It was noticed 45 per cent of the organic vegetable growers were found to practice erecting of bird perches for predators like crow, myna etc. only few of the farmers 33.3 per cent used to practice conservation and encouraging of predators like wasps, beetles in the field. These are the best methods to combat the pest.

Use of bio-pesticides in tomato

Among the different types of bio pesticides, majority of vegetable growers (98.3%) in tomato crop were found to use Neem Seed Kernel Extract (NSKE) at the rate of 2-5 ml/lit of water to control worms and whiteflies and also it is used as soil amendment or added to soil, not only enriches the soil with organic matter but also lowers nitrogen losses by inhibiting nitrification. The application of the neem cake at the rate of 3-5 qtl/acre to control nematodes root disease was noticed with 80 per cent of the respondents. The practice of spraying of bio pesticides like HaNPV (Helicoverpa armigera Nucleopolyhedrosis Virus) at the rate of 250LE/acre against fruit borer in tomato was noticed among 71.6 per cent of the farmers. It was noticed that 61.6 per cent of the respondents were used Trichoderma at the rate of 5 ml/lit of water for soil application, T is a biological control against plant pathogenic fungi found naturally in soil and is effective, Trichoderma is the control of seed and soil-borne diseases. It was found that 46.6 per cent of the farmers used one Trichocard per acre after 25 days of sowing or eggs of insects are found on the leaves of the plants. It was noticed that there were 31.6 per cent of the farmers practicing spray around 4-5% neem seed extract solution on plants, if the intensity of pest infestation is more because neem fumigants are ecofriendly, do not harm beneficial micro organisms and also pests do not develop
resistance to it, relatively less expensive are pest repellent and nourish the soil and function as pest reproduction controller, so that neem pesticides play a vital role in pest management and hence have been widely used in organic tomato production.

### 5.1.1.5 Adoption of weed management practices in tomato

The Table 4.5 and Figure 6 depict that adoption of weed management practices by organic vegetable growers in tomato. It was noticed that 98.33 per cent of the farmers adapted to practice timely or regular weeding from the field because weeding is an important control tool to practice in organic tomato. The removal of weeds is useful because these unwanted plants compete with the tomato crop for space, water and nutrients. It was noticed that 88.33 per cent of the farmer’s adopted to practices of weeding on 3rd and 7th week after transplanting of tomato seedlings to avoid the weeds competition against the tomato seedlings and efficient utilization of water and both macro and micro nutrients. It was found that 83.3 per cent of the farmer’s adapted to practices of earthing up during second weeding or 7th week after transplanting the seedlings to prevent the weeds and soil borne disease. It was noticed that 81.6 per cent of the farmers to practice the crop rotation, because, crop rotation are at the heart of organic tomato farming and help organic systems to protect our environment and also to control weeds, pests and diseases, soil fertility management, and maintain soil organic matter level. It was noticed that 73.3 per cent of the farmers adopted to practice timely inter cultivation to suppress the weeds followed by 53.3 per cent of the farmers were kept field bunds free from weeds and 40 per cent of the farmers were opined to practice the soil solarisation (exposing soil to sunlight) because several weed species can be controlled by soil solarisation since many of them are sensitive to high radiation.

### 5.1.1.6 Adoption of post-harvest management practices in tomato

The data depicted in Table 4.6 and Figure 7, revealed that, cent per cent of the respondents expressed that harvest the tomato crop after 2-3 months of planting when pink colour appears on the fruit it indicate that tomato ripen and ready to harvest. It was noticed that 90 per cent the respondents were practiced to pick tomatos at 2-3 days interval to mantain quality of tomato. The picking was done during the late afternoon or early in the morning by 81.66 per cent of the farmers to maintain the freshness of tomato. It was noticed that 75 per cent of the farmers were found to practice cleaning
surface of tomato fruits by using wet cloth to attract the buyers and consumers. The method of grading of harvested produce into small, medium and big size, with the objective of getting better price for the produce was noticed among all the respondents. It was noticed that 70 per cent of the farmers were used to pack the tomatoes in plastic crates and 30 per cent of the respondents were packing in 10 kg and 20 kg capacity bamboo baskets for easy loading and transportation to the market. It was noticed that 61.6 per cent farmers whose produces mode of transportation was through tempo or trucks whereas 18.33 per cent through bullock cart and 20 per cent of the farmers were transport their produce through tractor. There were 78.33 per cent of farmers who get the recommended yield of organic tomato around 10-20 t/acre, agricultural universities has to provide better package of practices to increases the yield of tomato.

5.1.2 Adoption of organic production practices in potato crop

5.1.2.1 Adoption of agronomic practices in potato

The Table 4.7 and Figure 8 depicted that there were cent per cent of the farmers prepare their land to fine tilth by deep ploughing and harrowing around 2-3 times to crushing the upper layer of soil and increases the water holding capacity of soil. It was found that their sowing type was ridges and furrow method for easy operations like weeding and irrigation. It was noticed that 80 per cent of the farmers whose sowing season was found in kharif followed by 20 per cent farmers found to sow in the rabi season, since most of the area is under rainfed conditions, kharif is the preferred season to secure the high yield, it is essential to plant the potatoes at the optimum season. It was noticed that 88.3 per cent of the farmers were select the varieties of tubers or seeds resistant to the pest and disease. The pest and disease resistant varieties were found that Kufri Jyothi and Kufri Jawahar in the selected area. There were high per cent of the farmers 81.7 per cent were found to select the tubers from certified organic farms having at least two buds which weigh around 35-40g for uniform germination of the tubers and to get higher yield. It was noticed that 90 per cent of the farmers were found to use recommended tubers at the rate of 4-6 qtl/acre with viable sprouting buds according to package of practice suggested by the experts. Majority of the respondent farmers (80%) were used to treat the tubers with trichoderma solution at the rate of 4 kg per 50 liter of water for 10 minutes before sowing because trichoderma is a very
effective biological mean for plant disease management especially soil borne. It was noticed that 75 per cent of the farmers to practiced incorporation of crop residues in the ridges and improve soil fertility. It was noticed that 86.7 per cent of the farmers found to maintain spacing between rows (50-60 cm) and plants (20-25 cm) for efficient utilization of water and nutrients. In case of cropping pattern, it was found that 93.3 per cent of the farmers expressed that to practice sole cropping and only 6.66 per cent followed inter cropping with tomato/cucumber at the time of potato flowering. It was noticed that 78.3 per cent of the farmers practiced to irrigate around 5-8 times at every 6-9 days interval, because it is most sensitive to water deficit. It was noticed that, 41.7 per cent of the respondent farmers to practice of mulching by sugarcane trash/sorghum straw etc to maintain optimum soil moisture.

5.1.2.2 Adoption of soil fertility management practices in potato

Application of organic manures in potato

The Table 4.8 and Figure 9 shows that there were cent per cent of the organic vegetable growers applied the recommended rate of farm yard manure (8-10 t/acre) in the cultivation of the organic potato crop because farm yard manure is rich in nutrients, small portion of nitrogen is directly available to potato while larger portion of nitrogen is made available as and when the farmyard manure decomposes. On the other hand there were 95 per cent of the farmers applied vermicompost at the rate of 1-1.5 t/acre to the potato crop, because vermicompost is an excellent tool of organic farming, which is helpful in maintain soil fertility status for long time and also improve the soil fertility as well as the moisture holding capacity.

Application of green manuring in potato

It was noticed that 85 per cent of the farmers were applied green manure like dhaincha, sunhemp etc. to the potato crop; green manuring is nothing but addition of green plant to soil for increasing its fertility and also it save about 60 kg of nitrogen per hectare, which is half the dose recommended for high yielding verities, green manuring not only adds nitrogen to the soil, but it also improves the physical and biological properties of the soil to sustain the potato. The green leaf manure was applying by 70.00 per cent of the respondent organic vegetable growers, because green leaf manuring
mainly forest leaves are the main source i.e neem, mahua, wild indigo, *pongamia glabra* and subabul etc to improves soil structure, increase water holding capacity and decreases soil by erosion. It was noticed that 93.3 per cent of the farmers practiced farm yard manure with recommended dose of *Trichoderma* @1-2 kg/100kg of FYM, *Trichoderma* is a genus of fungi that is present in all soils, so it is used for soil treatment for suppression of various diseases caused by fungal pathogens. It was noticed that 78.33 per cent of the farmers were applied neem seed cake at the rate of 250 kg per acre while forming ridges, neem seed cake (residue of neem seeds after oil extraction) when used for soil amendment or added to soil, not only enrich the soil with organic matter but also lowers nitrogen losses by inhibiting nitrification.

**Application of bio fertilizers in potato**

It was noticed that 81.6 per cent of the farmers used *Azospirillum* at the rate of 1-2 kg/acre for the soil application; *Azospirillum* is an associative symbiotic bacterium as it lives in close proximity and sometimes within the root tissue of the host plants and fixes atmospheric nitrogen. It was noticed that 66.7 per cent of the farmers practiced to use phosphate solubilising bacteria at the rate of 1-2 kg/acre for soil application, because it is a beneficial bacteria capable of hydrolysing phosphorus from insoluble compounds, so that it have attracted the attention of agriculturist as soil inoculums to improve the potato growth and yield. It was noticed that 75.00 per cent of the farmers used to apply jivamrutha at the rate of 3-5 litre/100 litre of water for spraying over soil because it is safeguard to soil microbes besides increases crop productivity. It was noticed that 41.66 per cent of the farmers maintained optimum soil moisture to avoid leaching and mobility of nutrients for efficient utilization of both macro and micro nutrients. It was found that 33.3 per cent of the farmers followed that practices of incorporation of crop residues like sugar cane straw/soybean etc. in the soil to enrich the soil fertility.

**5.1.2.3 Adoption of organic method of management of pest and disease in potato**

Table 4.9 presents and Figure 10 of this chapter presents production practices being followed in management of pest and diseases by organic vegetable growers in potato. It was noticed that 95 per cent of the farmers field noticed that major pest like cut worms, shoot borer and aphids in their potato filed; these are the major pest in
potato. It was noticed that 91.7 per cent of the farmer’s field observed that major diseases like blight, fusarium dry rot, black scurf (*Rhizoctonia solani*) in the potato filed. These observations are familiar to the farmers as these pests and disease are very regular in this area.

**Cultural practices in potato**

It was noticed that all the respondent farmers were practiced the deep summer ploughing to expose the eggs and immature stages of pest and insects to high temperature and predatory birds, deep summer ploughing helps to braking of hard crusted upper layer of the soil, consequently potato roots will get more moisture with less effort, and improve the soil structure due to alternate drying and cooling and also improves soil aeration which helps in multiplication of beneficial microorganisms. It was found that 93.3 per cent of the farmers practiced crop rotation with non-host crops to break the life cycle of insects and pests. There were 96.7 per cent of the farmers practiced trap crop like marigold to attract shoot borer and cut worms *etc.* on the other hand there were 86.7 per cent of the farmers used to sow entire block in time to get uniform germination and better yield.

**Mechanical practices in potato**

It was noticed that 70 per cent of the farmers were practicing mechanical removal of the infested shoots or plants to avoid the spreading pest and disease to entire potato crop. There were 75.6 per cent of the respondent farmers followed practices to install the light traps in and around the potato field, light traps are the effective tools of insect pest management in organic potato production as it mass-traps both the male and female of insects pests and also substantially reduces the carryover pest population. It was noticed that 85.00 per cent of the farmers were following practices of uprooting of the alternate host plants, because some of the pest and disease can not complete their life cycle in the absence of alternate host plant, where they undergo sexual recombination, so removing of alternative hosts can reduces the disease and pests infestation to the potato crop. There were 58.3 per cent of the farmers used to collect and destruct the egg masses or larva from the potato field to control the pests and diseases. It was observed that 80 per cent of the farmers were followed to practices of installation of pheromone trap around 4-6 per acre of the potato filed. There were 75.00
per cent of the farmers conserving and encouraging of predators in the field, to prevent
the pest infestation.

**Use of bio pesticides in potato**

There were high per cent of the farmers (96.6%) noticed that practicing seed or
tuber treatment with *Trichoderma* @ 4 kg/50 liter of water. There were 76.67 per cent
of farmers found to be practicing release of *trichocard* at the rate one card per acre at
weekly interval of 3-4 times after noticing the pest like shoot borer. It was found that
55.00 per cent of the farmers found to practice spray of *Bacillus subtilis* at the rate of 5
g per litre of water on the crop and ridges to control the late blight. There were 76.67
per cent of the farmers used to spray Neem Seed Kernel Extract (NSKE) 5% at 45 days
after sowing (DAS) to control pest and disease. The high per cent of the respondents
(86.66%) used to apply the neem cake to the soil to control nematodes or root disease at
the rate of 2-4 q/acre of the potato crop field.

**5.1.2.4 Adoption of weed management practices in potato**

Table 4.10 and Figure 11 present adoption of weed management practices by
organic vegetable growers in potato. There were 96.66 per cent of the farmers found to
be practices of inter cultivation at 20 and 45 days after sowing and 2 times hand
weeding at 25 and 50 days after sowing, the intercultivation and weeding operation is to
provide best opportunity to potato crop to establish and grow vigorously, the main
objective of intercultivation and weeding are to improve the soil conditions by reducing
evaporation from the soil surface, improve infiltration of rain or surface water. . It was
noticed that 85.00 per cent of the farmers were followed practices of crop rotation, if the
same crop is grown continuously for several seasons, weeds may reach high population,
on the other hand, rotation of crops having dissimilar life cycle or cultivation practices
breaks the life cycle of weeds and due to changes in ecological conditions and serves as
most effective of all the weed control measures in potato crop field. It was found that
73.3 per cent of the respondent farmers practices of mulching of the soil surface to
prevent the weed germination by blocking light transmission. It was noticed that 48.3
per cent of the farmers used to do field scouting to make immediate weed management
decisions. It was noticed that 41.7 per cent of the farmers used to select the varieties
carefully to grow more rapidly than the weeds. There were 78.3 per cent of the farmers
were followed to practices of keeping the field bunds free from weeds. It was noticed that 81.6 per cent of the farmers were followed to practices of soil solarisation by exposing soil to sunlight, because it is an environmentally friendly method of using solar for controlling pests such as soil borne plant pathogens including fungi, bacteria, nematodes and insect’s pests along with weed seeds in the soil.

5.1.2.5 Adoption of pre and post-harvest management practices in potato

Pre-harvest management in potato

Methods of haulm removal in potato

The data depicted in the Table 4.11 and Figure 12 revealed that majority of the farmers (83.33%) use the method of haulm chopping followed by haulm pulling (16.66%) and no one followed flaming method, now a day’s haulm chopping becomes more and more importance for the harvest and also it is not only allow to easy harvest but also guarantee efficient type of harvest to get good yield, quality and storability of the potatoes. It was noticed that cent per cent of the farmers found to stop the irrigation 2-3 weeks before harvesting of the potato crop to avoid wet condition in the potato field at the time of harvesting. It was found that all the farmers used to harvest their crop after 10-15 days of haulm cutting or de-haulming process to get better quality of potato.

Post-harvest management in potato

It was noticed that 18.33 per cent of the farmers were followed practices of hand digging method without damaging the potato at the time of harvesting. It was noticed that 81.66 per cent of the farmers were adopted the practices of ploughing by bullock pair or tractor for safe harvest without damaging the potato. It was found that 78.33 per cent of the farmers were followed to practices of drying the harvested tubers quickly to remove excessive moisture from the surface of the tubers to increase the keeping quality of tubers. It was noticed that 36.66 per cent of the farmers used to cure the potato at 25 degree centigrade with 95% of relative humidity to get the better price in market. It was noticed that 96.66 per cent of the farmers adapted to practice of removing all damaged and diseased tubers during sorting to get better price in the market depending on the quality of potato.
Methods of grading in potato

It was noticed that cent per cent of the farmers found to grade the potatoes as per recommended (small, medium and large size), because grading helps the potato producer and seller to determine the price, and also reduces the cost of marketing and helps the consumers to get standard potato at fair price. It was noticed that 73.34 per cent of the farmers used to grade the potato by hand whereas rest of the 26.66 per cent of the farmers used to grade the potatoes by using grader, grading has a direct influence on utilization point of view, as the small, medium and large sized tubers are prepared for seed tubers and large sized tubers are preferred for processing purpose.

Methods of packing in potato

Majority of the respondents 78.33 per cent of the potato growers were practiced to pack the potatoes by using jute bags followed by 18.33 per cent and 3.33 per cent of the farmers used Bamboo basket and plastic crate respectively for packing and protect potato against microbiological and other contamination of the potatoes.

Mode of transport

It was found that high per cent of the respondent farmers (63.33%) expressed that transport their produce through tempo or trucks for the market of potato followed by 16.66 per cent through bullock cart and 20.00 per cent of the farmers through tractor according to availability of vehicle and better market price for potato.

It was noticed that 90.00 per cent of the respondent farmers getting the yield of organic potato around 20-25t per acre, agricultural universities has to provide better package of practices to get good and quality yield of potato.

5.2 SOCIO ECONOMIC CHARACTERISTICS OF THE ORGANIC VEGETABLE GROWERS

The Table 4.12 which presents socioeconomic characteristics of organic vegetable growers, around, nine different particulars were listed in socio economic characteristics of 120 organic vegetable growers.
5.2.1 Age

The data revealed that majority of them (66.66%) belonged to middle age group of 31-50 years, followed by (24.16%) and (9.16%) belonged to young age group less than 30 years and old age groups more than 50 years, respectively.

The probable reason for majority of the respondents to be in middle age category might be that, usually farmers of middle age were enthusiastic and were having moderate experience in farming and have more work efficiency than younger and older ones.

5.2.2 Education

The literacy levels of respondent farmers were analyzed and found that comparatively 35.00 per cent of the organic vegetable growers had studied up to high school education, followed by 28.33 per cent of respondents had studied up to primary school level, 18 per cent of the respondents were completed their PUC (10 + 2) standard. Whereas graduated and post graduated were noticed to the extent of 12.50 per cent and 3.33 per cent respectively.

The increased importance of literacy and facilities available might be the reasons for favour the situation.

5.2.3 Land holding

The distribution of land holding depicts that comparatively a high per cent (39.16%) of the respondents belonged to small farmers category followed by semi medium farmers to the extent of 30.83 per cent. whereas marginal farmers category land holding size of farmers to the extent of 15.83 per cent of the respondents. 10 per cent and 4.16 per cent of the respondent were medium farmers and large farmers, respectively.

The continuous fragmentation of family might be the reason for the division of land holding and also attributed to inheritance of land from their ancestors who might have transferred from generation to generation.
5.2.4 Family size

Comparatively number 53.33 per cent of respondents were found to be medium type family of 4 - 6 members. The large family size with more than 6 members was distributed among 29.17 per cent of the grower respondents, Whereas 17.50 per cent were noticed in small family size with less than 4 members.

The present situation of continuous fragmentation of family for self growth might have favoured results.

5.2.5 Farming experience

The result revealed that 37.50 per cent respondents had medium farming experience of 16-25 years, followed by less experience of 16 years with 31.66 per cent of respondents, whereas 30.83 per cent of the respondents belonged to high farming experience of more than 25 years.

The tendency of farmers towards non farming sectors might be the reason for the situation.

5.2.6 Organic farming experience

The result revealed that, 61.66 per cent respondents belonged to medium organic farming experience of 2-3 years, followed by organic farming experience of more than 3 years with 25.83 per cent of respondents. Only 12.50 per cent of the respondent’s belonged to less organic farming experience category of 2 years.

This might be due to motivation by the organic farmers club formed in the district.

5.2.7 Livestock details of the respondents

Table 4.18 revealed that livestock details among the respondents. It was noticed that there were 83.34 per cent of the farmers having dairy cows in their home with their average number of cows were found to be as 2 per household. It was found that cent per cent of the house hold having buffaloes in their home with 2 animal per family. There were 81.67 per cent of the family having bullock pair and only 18.34 per cent of the respondents have goat in their home.
Organic farming needs cow dung, farm yard manure (FYM) and vermicompost etc so most of the farmers having livestock at their houses.

5.2.8 Asset information of the respondents

Table 4.19 presents cent per cent of the farmers having their own houses. It was noticed that 70.00 per cent of the farmers having bullock cart followed by 71.67 per cent of them having tractor. The implements like pump sets were having with 89.16 per cent of the farmers followed by 95.00 per cent of the farmers having agricultural equipment.

Agricultural equipments need for harrowing, floughing and intercultivation and all farmers having their own houses.

5.2.9 Extension participation by the respondents

Table 4.20 depicts participation of the farmers in extension activities. Extension participation was defined as the extent of participation of farmers in different extension activities. Lists of extension activities were prepared and the respondents were asked to indicate their extent of participation in each of the activity which is visualized in Figure 20. The detailed analysis of extension participation shown in Table 4.20 revealed that, the high per cent of the respondents were found to participate regularly in krishimela (91.67%), organic farming training programme (95.83%), savayava grama sabha (93.33%), organic farming field days (85.00%), organic farming field visits (90.00%) and organic farming exhibition (80.00%). The participation in organic farming expose tour was observed with 40 per cent of respondents, on the contrary a high per cent of respondents were found to participate occasionally in tours (45.00%) and bio pack of India (47.5%). It was noticed that 41.67 per cent of the farmers never participate in Bio – pack of India.

The advantages of being the members of organic farmers clubs, the respondents might have benefited for greater exposing of extension activities. It is quite clear from the Table that majority of the growers were depended on organic farming trainings programme to make improvement in there cultivation aspects.
5.3 TO STUDY THE VARIOUS MARKETING CHANNELS FOR ORGANIC VEGETABLES

5.3.1 Place of sale of organic tomato by growers

Table 4.21 depicts the sale of organic tomato by growers. There were four places where the organic tomatoes were sold by the farmers. It is evident from the Table that a majority of growers had a contract with vegi fresh of which they sold around 37 per cent of growers sold to them with having a prior contract, which indicates that there was more scope for contract farming in case of tomatoes in Belagavi district of Karnataka. 24 per cent of the growers sold their produce to different terminal markets of Belagavi district, to get immediate price. It was noticed that 23 per cent of the growers sold to commission agents. Only 16 per cent of the people took to raith bazaars for the auctioning their produce. There were around four channels through which the produce was disposed. Channel first composed of Producers to commission agents in turn from commission agents to consumers. Channel second comprised of producers to wholesalers then to terminal markets and thereby to consumers. Channel third consisted producers there by to contractors, processing of the produced tomato at last the consumers. As indicated in Table the channel four was much familiar where the growers were much acquired with the contractors which might be due to the inputs, pre-agreed price by the contractors with them.

5.3.2 Place of sale of organic grown potatoes

Table 4.22 depicted the sale of the organic potatoes in Belagavi district. As same as tomatoes disposal here also four places persist where the produce is sold. It was found that 34 per cent of the potato growers sold their produce to commission agents followed by 30 per cent of them sold to the wholesalers. Around 28 per cent of the growers sold their produce to village level traders in order to save the transportation charges that going to be incurred. It was found that 8 per cent of growers sold the produce directly to the ultimate consumers. There were four channels identified for the sale of the potatoes. First channel was producers sold the produce to wholesalers in turn they sold to retailers and at last it was reached to the ultimate consumers. Second foremost channel which was identified was from producers to commission agents then to wholesalers, retailers and at last it reached to the consumers. Third channel was from
producers to village level trader then to consumers. Fourth channel which was identified was from producers to ultimate consumers.

5.4 TO ASSESS THE CONSUMER AWARENESS AND PREFERENCE TOWARDS ORGANIC VEGETABLES

5.4.1 Socio economic characteristics of the consumers

Socio economic characteristic of the consumers is presented in the Table 4.23. The sample size was taken sixty. The consumer respondent of gender 52 (86.67%) found to be male and rest 08 (13.33%) were female respondents. It was found that consumer respondent age group, majority (35.00 %) of them belonged to the age group of 31 – 40 years. it was followed by age group of 41 –50 years, 20 -30 years and 51 – 60 years accounting for 31.66 per cent, 18.34 per cent and 15.00 per cent respectively. The marital status of the consumer respondents showed that majority (91.67%) of them married and a very few (8.33%) were unmarried.

In case of the occupation the majority 60.00 per cent of the sample respondents were found to be paid employers. There were 18.33 per cent business, 11.67 per cent home maker and 10 per cent retired men among the sample respondents of the consumers. No student respondents were found among the sample consumers.

It was found that 50.00 per cent of the sample respondents have 1-4 persons in their family. There were 45.00 per cent of the respondents whose family size was 5-8 persons per household. Only 5 per cent of the respondents were found to be having more than 8 members in the family. It was found that cent per cent of the sample respondents were aware of the organic vegetables.

In the same way the data was collected by the sample respondents that through which source they are going to get the knowledge regarding the organic vegetables. Majority (66.67%) of the sample respondents expressed that the media was the main source to get information about the organic vegetables. There were 18.33 per cent of the respondents whose sources of information were trade fairs followed by 13.33 per cent of the respondents through training programme. There was only 1.66 per cent of the consumer respondent getting information about the organic vegetable through internet.
Majority of the respondent consumers (48.33%) spent 1001 - 1500 rupees for purchasing of the organically cultivated vegetables. There were 28.33 per cent of the respondents spent around Rs. 501 - 1000 for purchasing the organic vegetables in one month, there were 18.33 per cent of the respondents spent around Rs less than 500, only 5.00 per cent of the respondents spent around Rs. 1501 – 2000.

When asked about the distance travelled to fetch the organic vegetables with the respondents there were 41.67 per cent of the consumers respondents who used to get the organic vegetables by travelling less than 1 km followed by 21.66 per cent consumers respondents need to travel 1-2 km and 18.33 per cent of the consumers respondents who travel 2-3 km to buy organic vegetables. It was found that there were 10.00 percent respondents travel 3-4 km and 8.33 per cent respondents travel more than 4 km to purchase the organic vegetables.

In case of the transportation, majority 70.00 per cent of the consumers were use two wheelers to get the organic vegetables. There were 21.60 per cent of consumer respondents were use four wheeler and 8.33 per cent of consumer respondents use public transport system to purchase the organic vegetables.

Consumption of organic vegetables, there were 45.00 per cent of consumer respondents who consume organic vegetables several times in a week followed by 41.67 per cent of consumer respondents once in a week. There were few 10 per cent of consumer respondents consume organic vegetables occasionally whereas 3.33 per cent consumers used to consume every day in their diet.

5.4.2 Consumer awareness of benefit of consuming organically grown vegetables

Table 4.24 shows that consumer awareness towards organic vegetables, Majority 90.00 per cent of the consumer’s opined that organically grown vegetables protect the health. 81.67 per cent of the consumer respondents expressed that organically grown vegetable more taste than chemically grown vegetables. It was noticed that 86.67 per cent of the consumer respondents expressed that organically grown vegetables have long shelf life. 78.33 per cent of the consumer respondents expressed that organically grown vegetables have better quality. Finally 85.00 per cent of the consumer respondents expressed that organically grown vegetables are more nutritious than conventionally grown vegetables.
5.4.3 Consumers preference of organic vegetables for consumption

Table 4.25 presented the consumers’ preference of organic vegetables for consumption. Some eight attributes which were identified as main attributes along with each attribute had its own sub attribute which were interviewed to the respondents. Taste was first among the attributes which was classified. Cent per cent of the consumers have given the statement as organic vegetables are tastier. In case of the health benefit attribute, the four statements have been formed to ask with consumers. Majority 88.34 per cent of the consumers agreed that organic vegetables are safe food for children and sick person. There were 10 per cent of consumers who did not agree for the same and 1.66 per cent of the consumer was neutral in nature about this statement. The statement such as organic vegetables are more nutritious was agreed by 78.34 per cent of the consumer respondents and 21.66 per cent of the consumer respondents not agreed with this statement. Majority 75.00 per cent of the respondents told that there are health benefits in consumption of the organic food whereas 20.00 per cent of the consumer respondents expressed negative response for this statement and only 5.00 per cent of the consumers were neutral in nature regarding this statement. 16.66 per cent of the respondents agreed for organic consumers fall sick often, 80.00 per cent of the consumer expressed negative about this statement only 3.34 per cent neutral about this statement.

According appearance of organic vegetables 26.66 per cent of the consumer respondents organic vegetables are larger than conventionally grown vegetables. There were 53.34 per cent of the consumers who did not agree for this statement and 20.00 per cent respondents were stood neutral for this particular statement. 28.33 per cent of the consumer respondents expressed that organic vegetables are less attractive than conventionally grown vegetables. 41.66 per cent of the consumer expressed negative about this statement and 30.00 per cent of the consumer neutral about this statement. Majority 98.34 per cent of the sample respondents agreed that organic vegetables are ecofriendly, only 1.66 per cent of the respondent did not agree for this statement. 91.67 per cent of the consumers expressed that organic vegetables are free from pesticide residue, 8.33 per cent of the consumer respondents expressed negative about this statement. Majority 90.00 per cent of the consumer respondents expressed that the
organic vegetables are produced without using chemical fertilizers and pesticides, Whereas 10.00 per cent of the consumers did not agree with this statement.

When asked about keeping quality of the organic produce, 68.33 per cent of the sample respondents agreed that organic vegetables stay more fresh comparatively conventional produce. There were 23.33 per cent of the consumers respondents who did not agreed with this statement followed by 8.33 per cent of the consumer respondents who were neutral for this statement. Majority 70.00 per cent of the consumer respondents agreed with the statement such as the organic vegetables can be stored for longer period as compared to conventionally grown vegetables, there were 18.33 per cent of the consumer respondents who did not agreed with this statement followed by 11.67 per cent of the respondents were neutral for this statement.

48.33 per cent respondents were expressed that organic vegetable consumption is status of symbol followed by 38.33 per cent of the consumer respondents expressed negative opinion about the statement only 13.34 per cent of the respondents neutral about this statement. There were 45.00 per cent of consumer respondents agreed for the statement such as the high price of the organic vegetables confirms its high quality, followed by 33.33 per cent of the respondents expressed that negative statement, whereas 21.67 per cent of the respondents were neutral about this statement.

It was found that 81.67 per cent of the consumer respondents agreed that the organic vegetables are certified followed by 15.00 per cent of the consumer respondents expressed negative statement only 3.33 per cent expressed about neutral statement. Majority 68.33 per cent of the consumers expressed that certification is a quality assurance for organic vegetables followed by 18.33 per cent respondents opined negative for this statement, only 13.34 per cent consumer respondents were neutral for this statement. It was found that cent per cent of the sample consumers agreed that price of organic vegetables are more compared to conventional vegetables.

5.4.4 Factors influencing for purchasing of organic vegetables

Table 4.26 reveals the opinion survey was conducted to identify to factors influencing for purchasing organic vegetables by the respondents. It could be observed
from the Table the majority of the respondents were expressed that healthy and hygienically produced was the major factor to purchase organic vegetable, it may because respondents were having more concern about their health and organic vegetables were free from chemicals and good for health. The next factor was good quality, compare to conventionally products the organic vegetables were good in quality so respondents prefer organic vegetables. Next factor was freshly available, in organic retail outlets vegetables were kept in cold condition so always fresh in nature. Respondents were purchasing organic vegetables due to its good taste and next other factors were followed by liked by the family members, good service, influenced by the friends and relatives, accessibility, regular availability and promoted by credit sales. Mainly preferring because of organic vegetables was good for health and free from chemicals.

5.4.5 Factor analysis

In this case as seen from the Table 4.27, the study tried to identify the important statements that come under agreement and disagreement attributes that influence consumers to prefer organic vegetables. Factor analysis on agreement and disagreement statements helped in classifying the factors that influence the consumers purchasing decision. The factors were classified as agreement statements and disagreements. Both together explain 78.654 per cent of total variance so agreement statements as an important one constitutes the factors like health benefits, quality, no harmful effects, tasty and expensive of the organic vegetables. This was explained by the variance of 44.84 per cent. Disagreement statements include the factors like fashion, attractive, fraud and worse. The variance for disagreements came to be 33.80 per cent.

5.4.6 Problems faced by the consumers

Table 4.29 depicts the problems faced by the consumers. Insufficient and non availability was the fore most problems faced by the consumers which were expelled by 95 per cent of the consumers. Low produce range was inferred by 93.34 per cent of the consumers. 90 per cent of them inferred there was a problem of proximity of outlet. 35.00 per cent of the consumer respondents expressed that lack of awareness.
5.5 CONSTRAINTS IN PRODUCTION AND MARKETING OF ORGANIC VEGETABLE GROWERS AND OBTAIN THEIR SUGGESTION.

5.5.1 Constraints of organic vegetable growers related to production aspects.

Table 4.30 indicates the constraints of organic vegetable growers related to production aspects among 120 growers. The problems were ranked under ascending order. In the first position, all the respondents expressed that lack of literature or package of practices on organic vegetable production, so that agricultural universities and agricultural department has to take initiate to provide proper package of practices to get better organic vegetables yield. In the second position, it was noticed that 96.66 per cent of the farmers expressed that as comparatively organically produced vegetables are low yield than conventionally grown vegetables, because of initial period of organic vegetable farming takes time from conventional farming to organic farming, so that we cannot get better yield during the conversion. In third position, It was noticed that 92.50% of the farmers expressed that lack of support from the government agencies and other relevant departments in the farm of subsidy and financial assistance, therefore government has to provide financial assistance and subsidies to organic vegetable farming to promote organic vegetable farming. In fourth position, noticed that 85.33% of farmers expressed that lack of research support in the form of providing scientific rationality of practices, because scientific research is the best tool to promote organic vegetable farming from sowing to till harvesting of the crop. In fifth position, noticed that 69.16% of the farmers expressed that more incidences of pest and disease, because most of the pest and disease are resistance to particular crop and area, so farmers has to control pest and disease by adopting cultural practices as well as bio control measures. In sixth position, noticed that 60.00% of the farmers expressed that non availability of sufficient quantity of organic inputs, so that agricultural universities and both central and state government has to provide sufficient fund to increase the production of organic inputs and supply to the organic vegetable farmers at reasonable rate, and also stop the production of chemical farming. In the seventh position, noticed that 53.33% of the farmers expressed that limited and irregular power supply, because farmers are need to irrigate the organic vegetable by pumping the water through bore well and rivers, so power is very essential to farmers for their agricultural activities. In the eight position, noticed that, 48.33% of the farmers expressed that lengthy organic certification
procedure and high cost, so that government and other concerned department has to reduce the lengthy certification procedure and price, mean while encourage the group certification. In the ninth position, noticed that 40.83% of farmers expressed that lack of literature of local language, therefore most of the organic vegetable farmers studied up to primary and high school, so farmers need the literature in local language for easy understanding as well as adopting the new technology very early. In the tenth position, noticed that, 35.83% of farmers expressed that non availability of labour, because most of the youth are migrating from rural area to urban area for searching jobs in the urban area, so government has to make organic farming is profitable. In eleventh position, noticed that, 26.636% insufficient of water for irrigation, so that irrigation department has to take proper management and make sure efficient irrigation facilities to organic vegetable farming. In twelfth position, noticed that 14.16% drastic reduction in cattle population, therefore organic farming is mainly dependent on farm yard manure, compost, vermicompost and cow dung etc, so cattle population is very important to produce all the organic inputs, veterinary department has to implement the scheme to increase the cattle population to promote organic vegetable.

5.5.2 Constraints of organic vegetable growers related to marketing aspects.

Table 4.31 depicts the constraints faced by the growers in terms of marketing aspects. Here also the problems faced by the growers were listed in ascending order. There were nine constraints faced and were listed as follows. First and foremost was noticed, all the farmers expressed that the problem of lack of minimum support price for organically grown vegetables, because Minimum Support Price (MSP) is a form of market intervention by the government of India to insure agricultural producers against any sharp fall in farm prices, it is announced by the government at the beginning of the sowing season for certain crops, it is price fixed by government of India to protect producers against excessive fall in price during bumper cropping. In second position, noticed that 91.66% of farmers expressed that non availability of market exclusively for organic produce, so that government and concern department should help for both producers and buyers to meet regularly. In third position, noticed that, 78.33% of the farmers expressed that absence of premium price for organic vegetable in local market, so that both agricultural and horticultural marketing department has to take initiative to set up separate market for organically grown vegetables and facilitate to premium price
for organically grown vegetables. Fourth position, noticed that 60.83% of the farmers expressed that inability to identify marketing networks for organic vegetables, therefore government, NGOs, agricultural and horticulture department actively participate to facilitate the good marketing network to both producers and buyers at national and international level to promote organic vegetable farming. Fifth position, noticed that 55.00% of the farmers expressed that lack of infrastructure facilities like cold storage etc. therefore vegetables are perishable commodity, we cannot store for long time, so government and concerned department has to implement the scheme and facilitate to farmers to pack and then store the organic vegetables in cold storage to avoid loss of organic vegetables. Sixth position, noticed that 39.16% of the farmers expressed that high commission charges, so that government has to facilitate to farmers directly sells the produce to buyers to get better price. In seventh position, noticed that 32.50% of farmers expressed that non availability of organic vegetable price information, so that farmers are not aware of the prices of organic vegetables on daily basis, both agricultural and horticulture marketing department has to facilitate to inform all vegetable prices. In eight positions, noticed that 21.66% of the farmers expressed that high cost of transportation, therefore make collection centres for organically grown vegetables in local area and pick the vegetables in bulk from the local collection centres to avoid much transportation charges. Last position, noticed that 10.33% of the farmers expressed that delayed cash payment, so that farmers need immediate cash for taking further agricultural activities, so buyers has to practice make payment immediately to organic vegetable farmers.

5.5.3 Suggestions obtained from the organic vegetable growers related to production aspects

Table 4.32 presents the suggestion obtained from the organic vegetable growers related to production aspects. There were eleven suggestions made by the organic vegetable growers. The suggestion made by them is listed in ascending order. In first position, noticed all the farmers opined that intensive research on organic farming was the first suggestion made by the vegetable growers; intensive research helps to vegetable growers to adopt proper package of practices and management of pest and disease. In second position, noticed that 97.50% of farmers expressed that need organic
inputs at subsidized rate, because organic inputs are very costly in the market due to non availability of sufficient quantity, so small and marginal farmers are facing the problems to get the inputs due to high price, so government and other department supplies the inputs at affordable price to organic vegetable growers for promoting organic vegetables. In third position, noticed 85.83% of farmers expressed that identification and multiplication of indigenous seed material, because indigenous seed materials are helps to grow vegetables organically and cost of seed material also not so high for sowing the next season. In fourth position, noticed that 67.50 per cent of the respondents expressed that coordination with animal husbandry department to increase the local cattle population; because cattle population is very important in organic farming for production of vermicompost and farm yard manure, apart from this cow urine is also required for promoting organic vegetable production. Fifth position, noticed that 62.50% of farmers expressed that mixed farming system with sheep, goat and poultry. Because, mixed farming is one which crop production is combined with rearing of livestock, it offers highest return on organic vegetable, as the by-products of farm are properly utilized, it provides work throughout the year and manures are available from livestock maintain soil fertility. In sixth position, noticed that 53.33% of the farmers expressed that establishment of organic hubs to serve as information centres and collection centres; because organic hub helps both producers as well consumers to provide relevant information about organic vegetables suggested by the organic vegetable growers. In seventh position, noticed 47.50% of farmers expressed that improved credit facilities for organic farming through banks, because organic vegetable farming needs credit facilities for purchasing inputs and other operations like weeding, intercultivation, harvesting and transportation etc were suggested by the organic vegetable growers. In eighth position, noticed that 42.50% opined that simplifying certification procedure, cost of certification and encourage the group certification, because group certification has now been introduced and is most popular and acceptable among the vegetable farming community, so it reduces certification cost per acre per compared to individual farmer certification, small holder groups gather with common interests make it possible and easy for government to implement development schemes and also it helps the organic vegetable growers in collective bargaining with buyer were
suggested by the organic vegetable growers. In ninth position, noticed that 35.83% of the farmers expressed that implementing more government policies that support organic vegetable farming; therefore government policies should be framed which aid in organic farming. In tenth position, noticed 35.83% of the respondents expressed that introduction of organic farming at school and college level, because school and colleges are provides fundamental knowledge of all aspects, so introducing organic farming at this level is helpful for converting all conventional farming to organic farming were suggested by the organic vegetable growers. In eleventh position, noticed that 20.00% of the farmers expressed that introduction of separate courses on organic farming in concerned universities for encouraging the organic vegetable farming were suggested by the organic vegetable growers.

5.5.4 Suggestions obtained from the organic vegetables growers related to organic vegetable marketing aspects.

The Table 4.33 suggestion obtained from the organic vegetable growers related to organic vegetable under marketing aspects which was revealed by 120 organic vegetables were listed in ascending order. In first position, noticed that all the farmers opined that fixation of minimum support price was the foremost suggestions were made by the vegetable growers for organically grown vegetables so that they will get a remunerative price for their vegetables were suggested by the organic vegetable growers. In second position, noticed that 94.16% of farmers expressed that encourage to set up exclusive organic vegetable marketing centres, it attract the organic vegetable growers, buyers and consumers to get better option to select or buy good vegetables by the buyers and consumers were suggested by the organic vegetable growers. In third position, noticed 90.00% of the farmers expressed that developing organic vegetable supply chain system at local, national and international level for strong development of organic vegetable system were suggested by the organic vegetable growers. In fourth position, noticed that 69.16% of the farmers expressed that rythu bazaars or kisan mandis should involved in organic vegetable farming for strengthening the organic vegetable farming were suggested by the organic vegetable farming. In fifth position, noticed 57.50% of farmers expressed that arranging organic vegetable producers and buyers meet regularly, because this meeting will help both producers and buyers to
solve the problems related to marketing aspects and getting better price were suggested by the organic vegetable growers. In sixth position, noticed that 54.16% of the farmers expressed that arranging better transportation facilities for organically grown vegetables by using refrigerated vehicles; because organically grown vegetables are costlier so that for avoiding the damage and deteriorate the organic vegetables, were suggested by the organic vegetable growers. In seventh position, noticed 48.33% of the farmers expressed that organizing of organic vegetable mela/exhibition by the government, NGOs and organic farmers club etc to encourage the organic vegetable marketing were suggested by the organic vegetable growers. In eighth position, noticed 42.50% of the farmer’s wide publicity made through mass media like television, radio, newspaper and posters to create awareness among public on organic vegetable marketing were suggested by the organic vegetable growers.

In ninth position, noticed 37.50% farmers expressed that incentives in prices over and above the MSP rates for organically produced vegetables for strengthen the organic vegetable marketing were suggested by the organic vegetable growers. In tenth position, noticed 27.50% of the farmers expressed that formation of clusters/collection centres for forward and backward linkages of organic vegetables, therefore to improve both forward and backward linkages of organic vegetables were suggested by the organic vegetable growers. In eleventh position, noticed that 18.33% of the farmers opined that creation of better infrastructure facilities like cold storage, processing and packaging etc, to control the quality of organic vegetables were suggested by the organic vegetable growers. In twelfth position, noticed 15.83% of farmers opined that facilitating contract farming for organic vegetables production and marketing with super market and multinational companies for getting price were suggested by the organic vegetable growers. At last suggestion noticed 10.83% of the farmers expressed that increasing consumer awareness on the values of organically grown vegetables.