15.1 Advancement of technology in sector has resulted into improvement and increase in employment potential. Hence application of advancement of technology to agriculture in terms of genetically improved seeds, modern agricultural practices (drip irrigation, plasticulture, nursery development, etc) must be aggressively promoted not only for productivity improvement but also for employment generation.

15.2 The focus of employment generation and technology dissemination must be the rural women and village youths by imparting them skills which are relevant to new technologies by appropriate training, Hi-tech farming has become a need of the time with decreasing arable land and increasing demand of future agriculture will need more skilled, specialized work force and application of information technology and better understanding of marketing agriculture produce.

15.3 The application of hybridization technology, recombinant DNA technology, will lead to enhancement of primary and secondary employment opportunities. The total area under hybrid crops would increase to 9.72 million hectares resulting into creation of 58 million man-days per year of employment. The secondary employment opportunities created due to increased production and ancillary agricultural activities is estimated at 22 million man-days. Attempts must be made for
distribution of seeds and planting material at convenient locations (in every village) for large scale adoption.

15.4 The total area covered under drip irrigation systems is estimated at 1 million hectares under 19 different cultivation activities. The coverage will create employment opportunities in the industry besides creating addition employment opportunities in the rural sector for installation and maintenance of systems. These activities will create 1.43 million man-days employment opportunity over 25 years. Use of poly houses for cultivation of value added crops would increase and is estimated at 10000 green houses of 500 square meters each. This activity would create direct employment through 50000 jobs.

15.5 The conversion to transgenic crops would be rapid and an area of 5.7 million hectares will be covered. It will lead to productivity improvement as well as reducing the use of harmful and toxic chemicals leading to improvement in the environmental conditions. It will also improve the competitiveness of the farmer by reducing his costs and improving productivity. The need for transmission of knowledge about transgenic crops will create employment opportunities of 5.7 million man-days.

15.6 It is estimated that 10.43 million hectares would be planted by use of seedlings. One acre of seedling cultivation and transplanting creates respectively 3.5 and 5 mandays employment potential. The total employment created for transplanting this area would be 92.25 and 130.55 million mandays respectively.

15.7 Special emphasis on training of entrepreneurship and marketing of agriculture produce should be extended to the village youth and women to enable them to apply marketing techniques for their produce. In the training programs, greater emphasis on training the village youth and women on marketing of agriculture produce would be very essential and would create skills for disposal of farm produce.

15.8 Use of Internet and other Information Technology based services will be crucial for achieving technology led productivity growth in agriculture in the state. The same could be achieved by having an internet kiosk in each of the 50000 plus villages of the state. Besides imparting skills to 50000 plus rural youths and it will create 18.25 million mandays of employment potential for young educated rural youth, both boys and girls.
Operational holdings below 2 Ha. being nearly 65% of the total holdings requires a new deal for the under employed for non-farm employment

15.9 Micro-propagation is one of the important contributions of plant tissue culture to commercial plant propagation and has vast significance. This technique provides rapid reliable system for production of large number of genetically uniform, disease free plantlets. Almost all the prime SAU’s and Institutes like BARC Mumbai, NCL Pune, ISC Bangalore & some private sector units are carrying out research in Tissue Culture. It is estimated that a tissue culture capacity creation of additional 1100 lakh plantlets will create employment for 1.7 million mandays skilled and unskilled personnel in near future.

15.10 Keeping in view the balanced and judicious use of fertilizers, Integrated Nutrient Management approach is the main tool in present conditions. This will also help for sustainable agriculture and for maintaining ecological balance. This invites to adopt maximum possible efforts for full capacity utilization of existing production units and also for establishment of additional bio-fertilizer production units in the state. There is scope for installation of additional 5000 units with 150 MT annual production capacity per unit in localized areas, especially where the potential is high and where no unit exists. This will create direct employment for 15 million mandays skilled and unskilled manpower.

15.11 State can cover an area of about 40 lakh ha. under IPM and increase number of applications of bioagents up to 2 to 3 depending on type of crop and nature of pests. This will necessitate production of bio-pesticides to be increased at least four fold. This is possible by increasing number of units and by increasing production capacity of existing Units. On an average one lab can cover about 10 thousand ha of cropped area (if number of application is up to 2 to 3 ). Thus about 250 new units are
required to be established during coming years creating employment potential for nearly 1.0 million man-days per year for qualified and semiskilled manpower.

15.12 Farmer’s Bazaar or Shetkari Bazaar on lines of Raytu Bazaar in Andhra Pradesh is a new concept of direct marketing between producer and consumer. This is an alternative system to present system of marketing through APMC. This will ensure lesser handling of produce and better return to the farmers or producers and availability of quality of produce at a reasonable price to the consumer. It is proposed to start 100 such Raytu Bazaar by the marketing board and in future several such Raytu Bazaars can be set up at the district as well as taluka place in Maharashtra creating generally 20,000 jobs.

15.13 Preparing of fresh produce for market involves certain basic operations such as washing, sorting, grading and packing. This can be carried out very effectively in a pack house situated either in the captive areas or at central place (on-farm or off-farm). Generally a primary processing activity, like setting up of a Grading and Packing facility requires minimal investment and ensures good return to the farmer / entrepreneur. There is a potential for setting up of 400 such grading / Packing houses in the Co-operative / private sector with a modest employment of 10-15 person/unit. Initially this facility will cater to the need of local market and also create employment for nearly 5 to 6 thousand persons.

15.14 Maharashtra being a leader in production of some major tropical fruits like Banana, Grapes, Mango, Guava etc.; processing industry has a vast scope for domestic and export market. According to industry sources, around 3% of all fruits and vegetables produced in the State today is being processed. In terms of quantity, about 2 lakh tonnes of food processing capacity is presently available in the State. As against this the total production of fruits, vegetables and spices add up to nearly 93.5 lakh tonnes. There is tremendous potential to at least process 25% of agriculture producer generating approximately 4.5 million man-days of employment in near future.

15.15 State accounts for 40 to 50% of the National exports of processed fruits and vegetables. Almost 80% of mangoes, 65% of onions & 90% of grapes exported from India are from the State. Food parks are promoted by the Department of Food Processing Industry, Ministry of Agriculture, Government of India. These Parks will be the nucleus of a broader area to be constituted as an Agricultural Export Zone (AEZ) under the EXIM policy of Government of India, which may generate direct & indirect job opportunities.

15.16 The agri-business centers besides providing market information support to the farmers could also provide input support and services on payment and can provide employment to rural youths. These centers would supply seed, seedlings, quality planting material of analytical, bio-control agents, bio-fertilizers and also provide testing facilities for soil, irrigation water, fertilizers, bio-fertilizers pesticides, veterinary services, livestock produce, Agro. processing, etc. on payment basis.
15.17 Establishment of Agri-clinics and agro-business centers by the agriculture graduates with credit facilities from financial institutions should be promoted. Such agri-clinics could provide services and information support to the farmers like technology for pest control, crops and animal husbandry, production technology, information about seeds and other inputs, market prices, etc. There is vast scope for this activity, nearly 30,000 entrepreneurs can be trained by Agril. Institutes and NGOs and awarded certificate and can perform this activity and act as village level consultants like a doctor through medical and veterinary clinic.

15.18 Since about 84% of land in the state is rainfed, the farmers are engaged in agriculture occupation only for four months. Hence they need employment for rest of the period through allied activities. Animal husbandry and dairy is one such area which will create employment through genetic improvement of the animals and a strong fodder production programme. It will provide employment opportunity for both skilled & unskilled manpower.

15.19 Poultry in this scenario is a powerful tool to fight poverty by creating job opportunities and also increase the production of high biological valued nutritious protein to suit the pocket of common housewife to fight deficiency syndromes. Poultry enterprise can be undertaken by landless rural youths also. This area has huge potential for self employment & employment generation.

15.20 On an average for every one youth employed in fishing, four additional persons are getting support employment through ancillary industries. One major positive change that has taken place over the years that fisheries generate employment for highly educated youths also. Modern fishing industry supports employment for qualified skippers, board crews and also fishing technicians. Fish processing has given birth to a series of hi-tech jobs for youth. Modern seafood industries absorb processing technologists, microbiologists & quality control staff. The State is gifted with 750 km long coast & creeks providing greater scope for fishing industry to provide employment in a big way.

15.21 Updated knowledge about weather forecast, crop cultivation practices, post harvest technology, water management, satellite imagery, commercial information, market information for agriculture produce, government schemes, policy on agriculture and agri-business can be made easily available. Hence the concept of setting up of agriculture knowledge center as means of providing latest information on latest technology and market intelligence access, will enable farmers to plan their farm activities on commercial lines for realizing maximum value for their farm produce. The market information center or Agricultural Knowledge Centre should be located at the most convenient and approachable places, mostly in the rural areas / taluka places having internet connectivity. To manage these information centres, the person, preferably agricultural graduate should be engaged from the concern village / taluka having knowledge of agro climatic conditions, soil condition of that region,
specially trained in operational aspect of computer, use of internet facility and giving required data to farmers in local language.

15.22 Policy of self employment in agriculture should be framed by the state government. It should provide priority to those sector / schemes which encourage for self employment and should include schemes for entrepreneurship development for identification, formulation and sourcing of funds. Developing linkages for marketing and other supports and creation of entrepreneurship for information centers. Investments in these sectors should be treated as direct investment in Agriculture. Attractive credit support facilities with low interest rate and longer period of repayment needs to be evolved. Suitable reforms in land laws & rules / Act are necessary to encourage contract farming as a means of self employment.

15.23 Proper policy measures to ensure unrestricted movement of agri-commodities, provision of rural roads and godowns, encouraging livestock enterprises, agro-forestry, tree farming freedom for cutting/logging all trees species grown on farmers lands have to be introduced to attract rural educated youth in setting up agri-business centers/enterprises. Such public policies for providing economic space for successful self-employment are urgently needed.

15.24 Various GoM & GoI sponsored employment generation programmes are implemented in the state. Most of these programmes are implemented in rural areas with an intention to provide gainful employment to unemployed skilled & unskilled rural masses. The basic activities covered under this scheme are watershed development & rural infrastructure activities. Horticulture plantation programme under EGS has generated 230 million mandays since its inception. Watershed development program aimed at restoring natural resources and creation of job opportunity in local areas has generated employment to the tune of 720 million mandays. It is expected that the above trend will persist in near future.

15.25 To summarize, the above activities can create employment opportunities estimated at more than 400 million mandays per annum, improvement in yearly production by 11.54 million tons and saving of precious water to an extent of 38235 lac cubic meters per year. It means more than 1 million jobs could be created in agriculture sector alone in near future. As earlier mentioned, the establishment of Krishi aur Udyog Vigyan Kendras will help to service the self-employed youth in a holistic manner.