

## 2.3 Development Vision and Strategies

### 2.3.1 Preamble

After the Independence, with increase in population the demand for food has increased manifolds and it is estimated that by year 2050, the demand for food items will be doubled of that of now. In meeting this demand supply gap, State of Punjab has contributed a lot to the central pool for the last five decades there by making our country from '*a food deficient state*' in late 50's to '*a food surplus state*'. Farming at the time of independence was subsistent type of farming with low cropping intensity and very less productivity of crops. Keeping in view this grim situation Union Government at that time gave a focused slogan "Grow More Food" in which agricultural research extension services were strengthened in a big way. Agricultural scientists explored all possibilities viz: development of high yielding varieties of crops, introduction of chemical fertilizers, new technologies in the field of plant protection, weed control and agricultural mechanization to cope up with the increased cropping intensity. The emphasis was on dissemination of improved technologies through extension services and by giving subsidized inputs. As a result of all these focused efforts, "Green Revolution" could be made possible and the country became self sufficient in the field of food grain production. But what we have paid for all this intensification is:

- Over exploitation of natural resources
- Shift from traditional cropping to induced cropping pattern with introduction of rice
- Increased dependence on synthetic chemicals such as fertilizers, pesticides etc
- Environmental pollution
- Degradation of soil structure
- Depletion of ground water table
- Meteorological shifts due to change in micro level environment.
- Poor health and incidence of fatal diseases in humans and animals
- Disease and insect pest out breaks along with emergence of new weeds
- Residue problems

- Stagnation in yield levels there by reducing profit margins and many more.

The Rice-Wheat Cropping System (RWCS) is the mainstay of agriculture in Jalandhar district. A significant increase in the productivity of these crops immediately after the release of modern varieties brought about a paradigm shift in the agronomy of these crops. The advent of green revolution also brought about a change like better procurement policies, creation of infrastructure like procurement/marketing Hubs, electricity, use of more fertilizers, use of need based pesticides, employment opportunities through Allied Enterprises, Mechanisation, and further intensification of RWCS

After 40 years of green revolution, another shock of water crisis is under way. There has been a consistent but conspicuous decline in the water table during last 40 years. Subsidizing electricity also led to ignoring the consequence of hopelessly high energy use for extracting the amount of water from deeper depths. For many years we kept shrugging it off but now the time has come to re-look at the whole cropping system for saving water and electricity.

Farmers can be persuaded to come to the rescue only if new technologies are risk free and provide adequate profits in any current year. In order to implement Punjab Government's newly introduced act "The Punjab Sub Soil Water Preservation Act 2008", introduction of Summer Moong to displace early sowing of rice, use of green manuring and lots of other resource conserving technologies will help farmers and policy makers cope with future water crisis. With still more use of external inputs and adding the cost of water extraction, the sustainability of this cropping will always be a cause of concern. Therefore, reducing the cost of cultivation and diversification will remain a priority area. Most farmers are sheltered from high input costs by subsidies but such subsidies now may have to be tagged with savings in natural resources. More a farmer saves without sacrificing yield more could be amount of subsidy.

The nutrient status in the soil has started to change with soils being low in Micronutrients level has increased significantly. The Farmers are using imbalanced fertilizers. Although, there does not seem to be a significant deviation between N and P ratio, and potash and micronutrients especially zinc and ferrous may have to be

rebalanced. Therefore, focus on ideal ratio of NPK, use of bio-fertilizers, use of pulses as intercrops, green manuring, use of farm yard manure and surface residue retention have to be brought in the form of special campaigns. The decline in soil productivity with nutrients extraction is not always matched by nutrient input. The recommendation on fertilizer, therefore, may have to be revised upward to reach the target of 4% growth in productivity per year of rice and wheat. Right now there is no risk free substitute of rice or even wheat. But we need to accelerate our plans to diversify within RWCS through permutation and combination of resource saving varieties.

The dairy farming where farmers have achieved commendable success, otherwise majority of the farmer are experiencing low productivity and profitability because of poor knowledge, inefficient integration without farming system technologies which include modern farm management skills. The allied enterprises are important part of the farming systems. Both price and income elasticity of demand for most of these enterprise's products are high. There is huge unfulfilled demand for these products. There exists high potential for increasing the yield rates of these enterprises as the gap between present productivity and the achievable yield and potential yield is quite large.