

CONTRIBUTION OF HORTICULTURE FARMS IN RESEARCH AND DEVELOPMENT IN NEPAL

Indra Raj Pandey¹

AGRO CLIMATIC WEALTH OF NEPAL

Nepal's agro-climatic and social settings can be accepted as opportunities and constraint both. Due to altitude, topography and aspect differences, microclimates vary in a great degree even in a day walk distances. Temperature and soil moisture retaining capacity is significantly influenced by altitude, aspect and lee warding by hills and mountains. If utilized properly and judicially agro-climatic and social settings are opportunities. The agro-climatic wealth of Nepal is favoured by altitude, topography and aspect. The annual motion of the Earth brings four distinct seasonal changes such as dry spring (mid March to mid June), wet summer (mid June to mid September), clear and fair autumn (mid September to mid December) and cold winter (mid December to mid March). These four seasons are not equally and evenly distributed to all over Nepal. The influence of seasonal change differs as per the difference in physiographic setting, altitude, aspect and lee warding and wind warding by high mountains. Temperature and rainfall are also influenced accordingly. For example, Terai and inner Terai including low altitude basins experiences warm temperate climate during winter, tropical climate during wet summer, sub-tropical effect during autumn and spring. Similarly, high hills and sub-Himalayan region experience tundra (Very cold and freezing) climate during winter, cool temperate during late autumn and early spring and warm temperate during summer. From the seasonal benefit, mid hills is the most favorable area. This area experiences sub-tropical climate during summer, warm temperate during spring and autumn and cool temperate during winter. Even in the same altitude the aspect affects the temperature. Similarly, in the same ward, the base of the hills has sub-tropical conditions while the top of the hill receives frost/snow in the same month. Thus, the same hillock can produce pineapple at the base and apple at the top.

¹ Freelance Horticulturist

REVIEW OF PAST CONTRIBUTION OF HORTICULTURE STATION/CENTERS

To harvest the agro climatic wealth, even Ranas established aristocratic orchards in Terai and Mid hills of Nepal. With the dawn of democracy in 1951, horticulture development took a new turn and the planned development started with the establishment of horticulture stations/centers at different ecological belts of Nepal. However, these stations/centers/farms established were concentrated in Central Region. During early days, most farms and centers were fruit and vegetable based. During seventies and early eighties, horticultural crop based stations and centers were established such as Cardamom Farm in Ilam/Phikkal, Potato Farm Nigale, Coffee Farm Gulmi, Vegetable Seed Production Center Rukum and Dadeldhura, Ginger Farm Salyan. In the past, horticulture stations and centers were responsible for:

- Adoptive as well as basic long term research in horticultural crops
- Production and distribution of planting materials
- Technical services in the denoted command areas; and
- Worked as living university where ideal models, demonstrations and farm management processes were exhibited.

Even today the nation is harvesting the output of those horticulture station and centers established 20 to 30 years earlier. The examples of the contribution of these stations and centers are apparent. Take the case of Jumla and Dolpa apple, its quality and quantity is comparable in domestic and export market. Is it because the then horticulturist bearing all troubles developed horticulture in such remote areas should the people of those area blame those planners and transport ministry who could not pace with horticulturist to construct road simultaneously with apple development in Jumla and Dolpa? Another example of the contribution of farms and stations are the technological change brought in the command areas of these stations/centers. The vegetables flushing to Kathmandu valley from Janakpur, Sarlahi and Bara area are the technological change brought about by the horticulture stations Janakpur, Sarlahi and Parwanipur. Any one can see many examples like vegetable seed from Rukum, fresh vegetable from Daman and Dhading, Junar from Sindhuli and vegetable export from Dnankuta. All these development are the impact of technological change brought about by the horticulture stations established in those areas. Further, the contribution of these farms and stations also include, the development of private agencies and cooperatives that cropped up and the business in vegetable seed and fresh vegetable expanded. Whether, we honestly credited for the works of farms/stations is still a question. The then horticulturists who are retired now who did those wonderful jobs during those times all thanked by the nation?

PRESENT DILEMMA

During sixties and seventies and up to half of the eighties, horticulture farms and stations had been playing very important role in the aforesaid roles and responsibilities. However, from mid eighties, the wrong concept of revenue generation in relation to capital investment in horticulture stations/centers came up. High investment and low revenue generation directly by farms and stations have been the main issue and concern of the Finance Ministry and Audit. Agriculturists, especially authorities in MOA and horticulturist also could not fully convince the concerned

finance authorities about the indirect role and contributions played by such farms/stations in helping the farmers to raise their income as a state service. For example: Horticulture Farm Dhunibesi's annual expenditure during 1989/90 was 500,000 and it generated direct revenue of 65,000, however the farmers were generating more than 10 million rupees from selling fruits and vegetables as the impact of that farm. Similarly, more than 40 million worth vegetable seed is annually produced in Rapti zone as the technical impact of Vegetable Seed Production Center Rukum whose annual budget is around two million only. Does this not justify the contribution of farms/stations?

Another suicidal dilemma and anomalies aroused during the division of human and other physical resources and farm/centers between NARC and DOA. Most qualified (Ph. D and M.S) human resource and specific crop development farms remained with DOA but devoid of main research mandate. Both institutions lost and are still losing their time in what should be done and who should do? No compromise earnestly is made even today, why?

Anomalies also aroused with the functioning of these horticulture stations/centers after the creation of Nepal Agricultural Research Council (NARC) when the horticultural stations and centers were sub-consciously hanged under Department of Agriculture and NARC with mandatory responsibility of research. This created the confusion of what these farms should do and what should not. As a result horticulture research and development could not move forward despite high potentiality and comparative advantages. The suicidal examples are the flushing of large number of foreign F_1 seeds in the market and buying of apple saplings from India to cope with Karnali Agriculture Development Project. It is because in the latter part of the nineties, domestic technology lagged behind. Forget about hybrid development, we could not even maintain already developed open pollinated varieties (e.g cabbages, carrot, knol-khol and so on) and foreign seeds trying to dominate the market and the extensionists are happy indisquize.

The hypnotic progress in vegetable production and marketing is seen in the market is based mostly on foreign hybrids and in the long run could be suicidal to our own research and development. Consider WTO?

FUTURE STRATEGY

At this juncture, I personally feel necessary to review the objectives, scope and working strategies of horticulture stations/centers in relation to the changed context and public need. Horticulture development and increase in production and productivity requires dedicated and continued effort to change the knowledge, skill, concept and behavior of the stakeholder farmers to adopt new technology and transform the traditional cropping pattern to modern and commercial one based on our own technology. However, it may be acclimatized testing exotic materials. The globalization, invasion by multinationals and our own open policy is threatening our bio-diversity and indigenous knowledge and techniques. In this context the following strategy is suggested.

- As APP and periodic plans are focusing on pocket program approach based on demand, market-led and output based horticulture development approach, redefine objectives and scope of horticultural stations and centers (both DOA and NARC) so as to support/facilitate technically the stakeholders, demonstrate envisaged vision, model and practical examples, based on agro-ecological zones.

- Stop the failed and impractical direct investment and revenue ratio that the farms and stations have to meet. But analyze the contribution of these farms to raise the income of beneficiaries in the command area.
- Whatever the activities that can be run by private, do not duplicate in the farms and stations but facilitate the private to carry out it by providing technical support.
- Reorganize the staffing structure reducing unproductive layer and ladder and increasing the capable and necessary posts only.
- Maintain different demonstration blocks, progeny orchards, bio-diversity conservation blocks, model gardens/orchards to preserve our indigenous wealth and convince the people with principle of seeing is believing and learning by doing
- Integrate as much activities as possible utilizing the existing facilities and resources for maximum technical out put from farms/stations.
- Revise mandate and accommodate activities needed by the nation and community keeping individual benefit at low key.