

THINKING OF UPSCALING **INDIAN APPLE** ECONOMY BY SIX TIMES, **WHERE TO LOOK FOR ANSWERS?**

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Approach

On May 20-22, 2018, a meeting of stakeholders was called to deliberate on these issues. Over thirty five apple farmers from apple growing areas of the Himalayan states, from Kashmir valley, Himachal Pradesh, Uttarakhand, Sikkim, Arunachal Pradesh, Nagaland and Mizoram, for a meeting on this topic, in Shimla Hills of Himachal Pradesh. They were joined by representatives of other stakeholders of the apple economy of India, i.e. experts of apple supplychain (aartiya, apple importer/exporter), urban consumers from metropolitan city, senior bureaucrats governing horticulture programs, along with a core team of IMI and FAO.

Learning from Deliberations

Calling all stakeholders on the same platform

offered an opportunity to understand state of affairs of apple farming in the Himalayan region and to find out areas of intervention for expanding the economy. The present apple area and economy divides the Himalayan region into two distinct categories; one, where apple economy is one of the leading sectors i.e. North West Himalayan states of Jammu and Kashmir and Himachal and two, where apple farming is either stagnating such as in Uttarakhand and Sikkim or is yet to emerge as a promising option of farm economy i.e. North East Himalayan states of Arunachal Pradesh, Nagaland and Mizoram. Over 3.3 million people of about 300,000 families, both on farm and off farm, are dependent on apple farming in Kashmir. Apple and rice are the two main crops of Kashmiri people and in recent years a trend is evolving where apple orchards are replacing paddy in the paddy fields and it is reflected in the 107% increase in area of apple orchards and 175% increase in production of fruits within two



Context

Apple is the number one fruit crop of the Himalayan Region and 4th most widely produced fruit in India after banana, orange and grapes. Presently, in the years of good crop yield, the production and productivity of apples across the Himalayan states is an economy of approximately Rs 15,000 crores. India's apple production rarely reaches 2 million MT. In contrast, China produces 43 million MT of apples with average productivity levels of 18 MT/hectare. Globally, apple productivity average is 15.5 MT/hectare. Countries exporting apples to India, namely, USA, Australia, New Zealand, Europe and China all have modernized apple farming as agri-enterprises focused on domestic and export markets. All leading apple growing countries, today, depend on the use of new technological advancements in varieties, root stock, plant husbandry, and post-harvest management and state of the art marketing means.

Can the apple economy of Indian Himalayan states be upscaled to over six times to ninety thousand crore rupee? What would it mean to Himalayan apple farmers with respect to changes in apple farming practices and to Governments about putting in place enabling policy environment?

decades. The key issues of apple farmers are aging orchards, pollination, fruit quality and productivity. Shift to clonal root stock, high density plantations and new varieties is in the initial stages, and so far centered on less than 2% farmers.

Apple orchards in Himachal Pradesh are largely on rain fed sloping farm lands. Apple economy of Himachal Pradesh is pegged at around Rs 3500 crore. Apple is most important fruit crop of Himachal Pradesh as it constitutes about 49% of the total fruit production. A good crop year means around 4.4 crore boxes (4.46 crore boxes in 2010) and a bad crop yields nearly 50% of that. Normally production remains in between these two extremes. In Himachal Pradesh, climate change is taking apple farming up wards and increasing access to low chilling varieties and other technological support is taking it down wards not only to areas from where apple had vanished but also to new

areas. Apple farmers of Shimla Hills have either innovated ways to rejuvenate old orchards with new varieties improving both quality and productivity to global standards or they are working to replace old orchards with new high density plantations of new apple varieties, gala, red chief, geromine, etc. on clonal root stock. Some innovative farmers experiences indicate that it is possible to maintain regular crop, productivity and production if above factors are managed properly. Premium price, which some of the innovative pioneer apple farmers of Himachal and Kashmir are getting for their quality produce that is usually higher than the imported apples, has certainly increased their economic return from apple crop, manifold. It testifies the fact that Himalayan farmers may already know how to manage apple crop for high quality, productivity and marketing and that upscaling economic return more than six times is possible. The challenge, however, remains how to make is a mass movement.

“My 2.5 hectares of old apple orchard I have rejuvenated into to a young orchard of new apple varieties. My earnings have increased from Rs two million to more than 10 million. I continue to be the leader in advocating the concept of making old orchards young and we can do it not once but time and again. For sloping land orchards, I advocate suitability of seedling based apple plantations of new varieties.”
-Ram Lal Chauhan, leading apple grower maintaining a demonstration type orchard, supplier of bud wood of new varieties, farmer consultant, Kotkhai, Shimla Hills



It has been established that the apple economy has immense potential. But, the question arises that why is this potential not explored as yet? Outcome of discussions among stakeholders pointed to the facts that small holders are continuing with the traditional ways of orchard management, post harvest handling and marketing. Will to change hinges on availability of knowledge, skills, technology, planting material and quality inputs. Studies have revealed that poor quality inputs, especially pesticides, unskilled workers managing orchards like bad pruning of trees, no assured irrigation to fruit laden trees during crop season continue to dominate apple farming in Kashmir and Himachal. Pioneer farmers and dominating scenario present a paradoxical situation of both gloom and hope, thus keeping both options open to farmers and Govts of Himalayan states.

“NE Himalayan states and apple farmers are in the initial stage of apple farming. We have no access to research, technology and new planting material. So expanding apple farming in NE will be dependent on efforts to remove these bottlenecks.”
-DR Moa, Deputy Director Horticulture, Govt. of Nagaland

Apple orchards of Uttarakhand are facing problems of old orchards, varieties, diseases, poor productivity and above all lack of institutional



support services. Otherwise agro-climatically more apple area can be added. Sikkim is a sad story of collapse of apple farming due to lack of institutional R&D support services. However, in Nagaland and Mizoram, opportunities for starting apple farming are increasing with availability of low chilling varieties.

Reports from both states indicate a nascent stage of apple farming with barely few years old orchards.

One of the off farm factors that is defining the dawn of new regime of apple economy is the widening consumer base in India with deeper pockets, preferring quality over price and expressing choice of variety. However, the new consumer is unmindful of where the produce comes from, imported or national.

Therefore, this has given boost to emerging global trade in apples, a scenario of evolving stronger globalized apple economy, and a challenge for Indian apple farmers to overcome. If trade restrictions were removed, imported apples will be cheaper, meaning that the cost of production of quality apples in foreign countries is less than it is in India. It will then be challenge for Indian farmers to look into this aspect if they have to remain competitive and key players in the domestic market. For apple growers of the Himalayan region India is a huge market which holds the capacity to consume its production and maintain need. The need is to improve quality of production and post-harvest handling, i.e., cold supply chain management for year round availability.

- North-West Himalayan states of Kashmir and Himachal lead the way in apple farming

and any upscaling with regards to modernizing apple farming, varieties and post-harvest handling has to first happen in these two states.

- NE Himalayan states hold the potential of becoming apple economy driven states of

the future.

They have vast land area which can be utilized for apple farming, using new low chilling varieties. But for that to happen, weak R&D institutional capacities of the states will

“Consider it a warning signal from the trading community. At the ports, imported good quality apples are reaching @ RS 50 per kg and traders care for consumers’ interest. So, take this message, Himalayan apple growers have only 10-15 years for improving quality and production. It also has to be cheaper; or else you will be eliminated by cheaper and better apple imports.”
- Rohit Maken, fruit importer / exporter, Aartiya Delhi market.

need upgradation. Apple farming in India is not yet modernized, which is required to realize its full potential. Scope exists for improving productivity, area, production and economic returns.

“Red delicious is an outgoing apple variety world over because it is being replaced by new varieties like Gala and super chief, for better taste and colour. “

- Rohit Maken, Apple Trader-importer/exporter

- An analysis of the coming times of apple farmers indicates that Himalayan farmers will need to work out strategies for cutting down cost of cultivation down the supply chain – and that is a must factor for survival of apple agribusiness by the new age farmers. Technology, of late has been, helping



farmers expand down wards. Where ever apple farms vanished during past decades, these areas have gotten new opportunity of apple farming through low chilling HD varieties. It has started happening.

- Good planting material meaning, appropriate root stock/ seedling stock as well as bud wood of new varieties, all are essential concerns for expansion of the Himalayan apple belt. For downward movement of apple belt, which is technologically possible now, but new skills will need to be acquired by the farmers so as to grow apples successfully in the lower belts.

“I have come here to ask why our apple orchards are failing, we have no clue. NE Himalaya has land and climate for apples but Kashmir and Himachal farmers have to lead the way for us in evolving new modern ways of apple farming.”

-Mr Pura Pai, Zero valley Arunachal Pradesh

- For modernization of apple production the issues that will dominate efforts include; HDPs, clonal root stock, new varieties of apples, indigenous Himalayan varieties of apples, innovations in rejuvenating old orchards, better infrastructure for post harvest handling and better supply chain mechanisms. There is also a small basket of indigenous varieties of apples with the Him-

alayan farmers which hold the potential of specialized niches and produce, for tomorrow, namely, Ambri of Kashmir, Kirkichoo of Kargil and Thakush of Leh Ladakh.

- Farmers are yet to gain the know-how of new varieties in order for them to make a decision about which ones would suit their agro-climatic and socioeconomic conditions. This has always been one neglected aspect, but it is a necessity for apple farmers to acquire new knowledge and skills of modern apple farming techniques. It includes new knowledge about varieties, root stocks, kind of plant architecture for higher yields in a particular farm land scape, post-harvest choices, consumer psychology and strategizing better marketing.

Conclusion

“Immediate challenges of Himalayan apple farmers are about how one can have good crop every year, how can productivity be maintained and how to manage pollination in apple orchards.”

**-Kunal Chauhan,
Progressive Growers Association.**

Deliberations overshadowed by current state of affairs of the apple economy of Himalayan apple farmers, provided excellent platform to



“Economic loss to Himachal, if clonal root stock and new apple varieties not adopted; getting 2 crore boxes against a potential of 8 crores boxes, getting productivity of 5MT/h against potential for 50 MT/h.”
-Vikram Rawat, Karsog, HP

ponder over possibilities of promising future of apple economy. Aiming at ten times increase in the apple economy; for such a thing to happen, it will require deep thinking on designing long term strategies for; Climate should not be thought of as the only consideration which gives mountain farmers the comparative advantage for apple farming. So far, in the initial phases of cash cropping thrust it worked well but for the coming times it will be too small a window of opportunity. Unless other technological and institutional factors are managed, upscaling apple economy on larger scale cannot be expected.

In apple orchards, farmers make money once a year but if integrated with agro-tourism and home stays, it will ensure continuous supply of money throughout the year. For apple farming linked tourism, there is scope to expand into orchard management operations, apple varieties knowledge, taste of apple plucking and eating apple from trees. This way, visitors will be involved in all kinds of operations.

The Himalayan apple farmers were so far living in the past. Farmers and Govts across the Himalayan states have to understand that continuing with old practices of apple farming will no longer help continue apple growing with sustainable economic returns that match 21st century agribusiness needs and economic

returns. Both need to change and facilitate modernization of farm practices, new varieties, post-harvest handling and marketing to their advantage.

Implications

1. Key apple economy stakeholders, Himalayan farmers and Govts, need to start with global aspirations w.r.t. apple economy. These are quality and productivity. If we were to adopt these goals for apple farming today, that will lead us to making brand Himalaya in this sector.
2. India's first apple mission should be about saving nine thousand crores that go into importing apples, (a slogan for improving apple production). Market of that scale and the money, in a way, is readily available for Indian Himalayan apple farmers and Himalayan states, if they care to capture the opportunity in that scale. Creation of new pathways, and strategic planning for further expanding apple economy six times should follow. A HIMALAYAN MISSION TOWARDS CREATING ORCHARDS WITHOUT BOUNDARIES. It means creating a landscape of large areas of apple orchards, which may belong to different farmers but look like one big orchard. This concept of Apple Valley can be applied to all the apple growing Himalayan states. It is expected to lead to collective ac-



“Vocational training of apple orchardists needed to improve their knowledge and skills about varieties, tree architecture and fruit quality.”

-M. Malik, President Shopian Apple Growers Association, Kashmir

“We should keep on board different options/ opportunities in apple farming but we should start with global aspirations.”

-Sushil Ramola, President, IMI

tion by the farmers for both on farm and off farm operations.

3. Strategies for building capacities to ensure compliance of food safety standards. It is safe to think that Indian population by this time will be willing to pay more for safe food. Vast areas of orchard landscapes providing safe fruits would mean that technological advancements will make it possible to do away with use of harmful chemicals in the orchards. That means, in addition to being sources of fruits, apple orchards can also be sources of clean air, clean water, and clean environment on mountain landscapes and valleys.
4. Creating a platform of Himalayan apple stakeholders, farmers, R&D agencies and marketing systems to continue the dialogue is suggested as a strategy that leads to developing concrete ideas and proposals for collaborative action for upscaling apple economy of the Himalayan farmers and states.

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