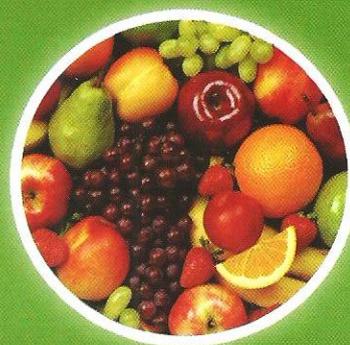
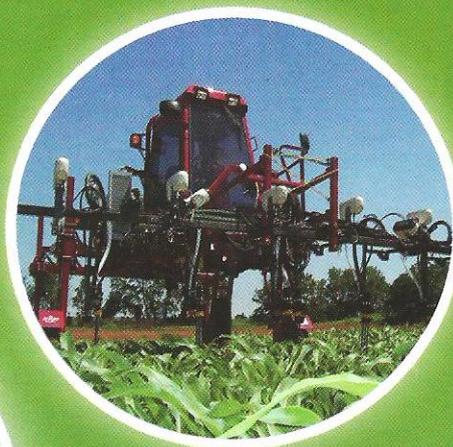


Policy Recommendations: Global Agri Connect 2012

NSFI
Global Agri
CONNECT 2012
Conference cum Exhibition

“High Value Agriculture: A Gateway to Farm Prosperity”

2nd – 4th November, 2012



NSFI

National
Skills
Foundation
of India

..enabling sustainable livelihoods



IARI

Inaugural Session



From left to right

Mr Sanjeev Asthana, Chairman-NSFI,

Dr Ashok Gulati, Chairman-CACP,

Prof Abhijit Sen, Member, Planning Commission,

Dr Arvind Kumar, DDG-ICAR

Dr H S Gaur, Dean & Joint Director-IARI, Dr Satender Singh Arya, CEO-NSFI

Title : **Policy Recommendations – Global Agri Connect – 2012**
Theme: High Value Agriculture – A Gateway to Farm prosperity

Year of Publication : **2012**

Author : **Team NSFI**

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Foreword

Agriculture is at the center of today's most important debates whether it is about global food security, availability of water, demand of fuel, need of alternate sources, or the global warming.

At this time of raising food inflation, rapid population growth and concerns over global food security; High Value Agriculture would be a key factor in addressing the future food requirements and emerging challenges of climate change and resource conservation. High-value agricultural products are those which provide high returns per hectare area and per unit of labour input.

The rise in per capita income, changes in tastes, preferences and urbanization have also resulted in changing consumption pattern away from traditional food commodities to processed and high value commodities. Due to this shift in demand pattern towards high-value crops, the farmers have also responded to market signals and gradually shifting production-mix to meet the growing demand for high-value commodities.

I am privileged to present the Global Agri Connect 2012 – Policy Recommendation Paper on **“High Value Agriculture – A Gateway to Farm Prosperity”** by NSFI. This Paper highlights the issues of this emerging sector and also provides a roadmap based on the recommendations of eminent stakeholders from industry, government and academia.

I am confident that the information presented in the paper would serve as valuable material for all stakeholders for developing the most promising and emerging sector of High Value Agriculture which will lead to **farm prosperity**.

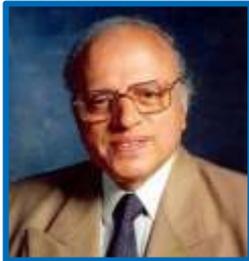
Regards

Sanjeev Asthana

Founder & Chairman, NSFI



Advisory / Organising Committee



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MP, Rajya Sabha



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Assistant Representative, FAO



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Chairman, CMA-IIMA



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DG, ICAR & Secretary, DARE



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President, Blue Star Ltd



Dr B L Saraswat
ED, National Bee Board



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National Horticulture Mission



Mr G Chandrashekar
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Business Line



Mr Girish Aivalli
EVP, Yes Bank



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Dr Ravi Khetarpal
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Dr Sangeeta Ladha
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Dr Gyanendra Shukla
Director, Monsanto Holdings
Pvt Ltd

Dr V M Mayande
President, ISAE



Dr Kapil Narula
Director, CWC, India Office,
CIPT



Mr Krish Iyengar
Joint Secretary, NCPAH
Ministry of Agriculture

Dr Gajendra Singh
Former VC, Doon University

Executive Summary

India's economy has grown at an impressive pace over the last two decades as a result of wide-ranging structural reforms to open up the economy and make it more competitive. But in the same phase of time, Agriculture-related growth has been much slower than in non-agricultural sectors, contributing to the widening of inequality.

Infact, the contribution of agricultural sector to national Gross Domestic Product (GDP) has continued to decline; while that of other sectors, particularly services, has increased. Agriculture still accounts for 17% of India's GDP and about half of total employment. Two-thirds of India's population depend on agriculture and related activities for their livelihood. A key challenge for India is to make its agricultural sector more productive and more sustainable.

And, given the declining share of traditional agricultural commodities in production, consumption and trade, horticulture and other non-traditional, High-Value Agriculture represent an important area of potential income growth in rural areas. The high-value agriculture-led-growth strategy also provides significant scope for achieving greater commercialization of smallholder agriculture.

Agriculture has transformed from being supply-driven to being driven by demand. Consumers now demand better quality, prefer multiple choices, value food safety and seek convenience. Due to this shift in demand pattern towards high value crops, the farmers are also responding to market signals and gradually shifting production-mix to meet the growing demand for high value commodities. As the economy develops, high-value agriculture becomes increasingly important, both as a share in agricultural output and in the food basket.

However, this sector faces numerous challenges in the form of lack of market access, non-customized farm inputs, outdated technology and extraneous services. To address these challenges in High Value Agriculture and to showcase new ideas, innovations and success stories, National Skills Foundation of India (NSFI) organized Global Agri Connect 2012.

The Global Agri Connect 2012 was held from 2nd-4th November 2012 in New Delhi, India with Indian Agricultural Research Institute (IARI) as Principal Co-Organizer, Columbia Water Centre as Research Partner, Yes Bank Ltd as Knowledge Partner and Co-Organizers like NHM, National Seed Association of India (NSAI), NCPAH, NERAMAC, PMFAI, CIH, Nagaland and National Bee Board with active participation from corporate.

With this in view, the Global Agri Connect 2012 set out to unearth implementable ideas and solutions to the myriad problems dogging Indian agriculture and put the farm sector on the road to self-sustained growth and prosperity.

Policy Recommendation

Background

High-value agricultural products are defined as those which provide high returns per hectare or per unit of labour input. The agricultural sector in developing countries is undergoing a transformation. For high-value agricultural products there is a growing share in production, trade, and consumption, due to changing diets, trade liberalization, and foreign investment.

This paper focuses on the issues related to this crucial sector, recommendations made by the eminent stakeholders from industry, government and academia and a roadmap for future.

Inaugural Session

Global Agri Connect 2012 on “High Value Agriculture – A Gateway to Farm Prosperity” was organised by National Skills Foundation of India (NSFI) and Indian Agriculture Research Institute (IARI) as Principal Co organiser between 2nd November to 4th November 2012, at Dr. B P Pal Auditorium, IARI Pusa Campus, New Delhi. The conference was inaugurated on 2nd November by Chief Guest Prof. Abhijit Sen and attended by various dignitaries including Dr. Ashok Gulati, Dr. Arvin Kumar, Dr. H S Gaur and Mr. Sanjeev Asthana. The conference has a total of 400 delegates from national and international level.



Inaugural Address

Prof Abhijit Sen, Member, Planning Commission, Government of India, in his Inaugural Address set the ball rolling by giving a clarion call to accelerate the skill development in the country to achieve the economic and social inclusion targets. *“When we start looking at the growth process, there is a need of new knowledge, need people to do things differently and that's when the issue of skills comes in a big way”.*

The Hon'ble Member, Planning Commission added that High Value Agriculture is an important part of Indian agriculture. *“Indian Agriculture will not continue to depend on cereals, but still cereals will continue to be important because we have more than 50% calorie intake coming from cereals”.* He also added:



“When we start looking at the growth process, there is a need of new knowledge, need people to do things differently and that's when the issue of skills comes in a big way”

- In India, farm sizes are small and they are getting smaller. The solution to this problem is cooperation in work which is an essential element and it can be achieved through Skill development.
- As the demand for HVA products are increasing, the demand for cereals will proportionally decrease for consumption. For example, as the demand for livestock will increase, the use of cereal as feed input will proportionally increase.
- HVA products are highly perishable and large investment is required for its processing and transportation.

- Extension by its nature is skill formation and skill dissemination and soon National Mission on extension Technology especially seed and machinery with extension.
- The 12th plan will definitely try to give in all its programme, a clear message that aggregation and group activity is important for Indian Agriculture to go forward without that we will face economies of scale.

Dr Ashok Gulati, Chairman, Commission for Agricultural Costs and Prices (CACP), in his keynote address unveiled his vision of Indian agriculture and stated that agriculture sector in India presented many challenges and opportunities.

“When we largely think of Indian Agriculture, we think of foodgrains which is critical for food security, but food grains together do not occupy more than 25% of the total value of agriculture output.



“The big bang story and the farm prosperity in next 10 years is not going to come from cereals, it is going to come from where the demand is growing at triple the rate”

The demand for other segments, particularly HVA is growing at three time's rate than the seeds demand. The big bang story and the farm prosperity in next 10 years is not going to come from cereals, it is going to come from where the demand is growing at triple the rate”.

He enumerated several imperatives to put Indian agriculture on a sound footing. These include:

- Market access and demand of the product in the market should be ensured before production.
- The largest chunk of food inflation in 2010-11 & 2011-12 is coming from HVA i.e. fruits & vegetables, milk & milk products, meat, fish and poultry. As income increases, people are not going to consume more of cereals on per capita basis directly.
- In case of cereals, the farmer get 60-70% of the cost paid by the consumer but in case of fruits, vegetables and meat typically the farmer will get to ¼ of the amount paid by the

consumer. This is due to the fragmented supply chain which is not very efficient and it requires a huge investment in the supply chain.

- There would be requirement for processing of produce and faster lanes for movement of refrigerated vans.
- The farmer can get a higher price on his raw material only if there is a value addition.
- There is a need to mainstream the unorganized retailing like Kirana shops, hawkers etc, into Organized Retailing.

Dr Gulati said that *“India cannot afford the luxury of remaining stagnant, process of creative destruction is the law of change, so we have to change and move toward more efficient change. It is the efficiency which will lead to growth but with that growth we have to make it more inclusive by mainstreaming the people and then we can definitely win the world”.*

“India cannot afford the luxury of remaining stagnant, process of creative destruction is the law of change, so we have to change and move toward more efficient change”



“The changing climate scenario, diminishing biodiversity and deteriorating human health are the key issues which need to be addressed adequately in order to have a sustainable growth of Agriculture.”

Dr Arvind Kumar, DDG, Indian Council of Agriculture Research (ICAR) in his address highlighted the importance of HVA in this Modern Era of Technology “HVA is a shift from primary agriculture to secondary agriculture. Although, the country has attained self-sufficiency in food grains with 257 million tonnes but a lot needs to be done to address the issue of rural poverty”.

“The changing climate scenario, diminishing biodiversity and deteriorating human health are the key issues which need to be addressed adequately in order to have a sustainable growth of Agriculture”.

Dr H S Gaur, Dean & Joint Director, Indian Agriculture Research Institute (IARI) welcomed the dignitaries, delegates and exhibitors on behalf of IARI. He emphasized that is quite appropriate that Global Agri Connect'2012 on the theme 'High Value Agriculture: A Gateway to Farm Prosperity' is being organized in the Year of Horticulture'2012 itself”.

He pointed out that “Indian Agriculture has traditionally being a paradox. Our farmers provide food to 17% of the world population. The share of agriculture in GDP is mere 14.5% which is the contribution of 55% people engaged in agriculture”.

“Our agriculture so far has been primarily green waste, required proportionately large farm sizes may be due to low skills orientation. The scenario is fast changing in terms of farm sizes, socio-economic conditions, consumer preferences, market demands. The need is firstly to provide enough income to the farmers and secondly to provide technology and skills for improving the quality and quantity of the produce. Diversification and transformation to HVA is necessary. Transition to a Knowledge based economy is a new generation of educated and skilled people”.



“Diversification and transformation to HVA is necessary. Transition to a Knowledge based economy is a new generation of educated and skilled people.”



“Due to the demand for HVA products, the farmers have started to adapt the new demand but there are four main constraints which need to be addressed to enable the farmers respond to this growing demand.”

Mr Sanjeev Asthana, Founder & Chairman, National Skills Foundation of India (NSFI), in his Welcome Address, outlined NSFI's strong advocacy of agriculture reforms and policy changes, with a view to increasing the income of the farmers, farm productivity and make Indian agriculture globally competitive.

He also pointed out that there is a need to address the conflicting domestic policies relating to production, procurement, pricing and distribution, regulated domestic markets, lack of infrastructure facilities, poor supply chain, low productivity, low value addition and very importantly unskilled workforce.

“Due to the demand for HVA products, the farmers have started to adapt the new demand but there are four main constraints which need to be addressed to enable the farmers respond to this growing demand. The four main constraints are lack of information, risk on returns, lack of liquidity and the strategic location of the farm. It would be difficult for India to attain a higher trajectory growth in agriculture and compete in global market in absence of solutions to these critical issues.”

NSFI, he said, strongly believes that for the inclusive growth of agriculture sector, a firm partnership between farmers, Central and State Governments, agriculture universities, agriculture research institutes and industry is critical. Planned and need-based integration of industry with agriculture would ensure that benefits percolate to the farmers.

Dr Satender Singh Arya, CEO, NSFI in his Vote of Thanks, stated, “We at NSFI strongly feels that for a prodigious country like India, the challenges are getting magnified because of the dire need to reach out to its teeming millions; the inevitable shift of labour from agriculture to manufacturing and services sectors and manifold challenges in implementation of programmes at the grass root level”

He added, “This Conference will be addressing these critical issues and we look forward to your active participation in the deliberations because it is only possible when everyone comes together, we can find opportunities in these challenges and can come out with a roadmap to achieve the inclusive growth”.

With this, he welcomed all the dignitaries, delegates and exhibitors for an active participation in the programme.



“For a prodigious country like India, the challenges are getting magnified because of the dire need to reach out to its teeming millions”.

The Knowledge Report on High Value Agriculture, prepared in partnership with Yes Bank and Book on “Innovative Approaches to Hi Value Agriculture: Success Stories” are released during the Inaugural Session.

The critical element of the Knowledge Report was then discussed by Mr Girish Aivalli, Group Executive Vice President & Country Head, Yes Bank. He highlighted the current scenario and challenges faced by the crucial sectors like dairy, fisheries, horticulture, livestock, poultry, organic agriculture, medicinal and aromatic plants and also presented the strategic roadmap to drive growth in these sectors.

He mentioned that, “These changing trends call for judicious use of farm inputs, extensive mechanization, a strengthened supply chain, state of the art infrastructure and far-reaching extension services. Information Technology is another support system of the changing dynamics. The accuracy, availability and applicability of the information can provide impetus to changing production patterns. And a new approach concerted with effective public and private partnerships will become the driving force for High Value Agriculture”.



The Conference was structured into seven Technical Sessions to allow experts from Government agencies, private sector and academics to delve into problems bedeviling the farm sector and suggest practical solutions.

Technical Session I:

Towards High Value Agriculture-Drivers of Change



Prof. Vijay Paul Sharma
IIM Ahmedabad

Topic:
Enabling the shift to High Value Agriculture: Structural constraints and policy road map for the sector



Mr. Tushar Pandey
President & Country Head, SIGA
YES BANK

Topic:
Institutional Innovation as an enabler for High Value Agriculture



Dr. Ravi Khetarpal
Regional Director, CABI

Topic:
Role of Technology & Knowledge Management in Hi Value Agriculture



Mr. Basab Banerjee
Head, Standards & QA, NSDC

Topic:
From a Farmer to Entrepreneur: Role of skill development and success stories from the Field

Issues (Towards High Value Agriculture-Drivers of Change)

- Supply side Barriers
 - Farm Production
 - Fragmented Land Holdings
 - Poor market orientation
 - Low productivity & marketable surplus
 - Post Harvest Handling
 - Unscientific handling
 - Rudimentary packaging
 - Lack of quality standards
 - Marketing Infrastructure
 - Inadequate infrastructure at Mandis
 - Lack of transparent price discovery
 - Lack of scientific weightment / grading
 - Marketing System
 - High intermediation
 - No structured law for contract farming
 - Logistics
 - Highly fragmented industry
 - Lack of integrated cold chain network
 - Inadequate warehousing

- Processing
 - Dominated by small scale players
 - Poor backward and forward linkage
 - No control on quality and quantity

- Land Tenure Policies:
 - Fragmented operational holdings discourage agribusiness investment by complicating vertical coordination or integration by traders. Land rental and tenancy laws vary from State to State in India.

- Infrastructure
 - Inadequate Storage infrastructure
 - Inadequate processing & marketing infrastructure
 - High transportation costs
 - Transportation oriented towards quantitative aspects

- Access to Credit Facilities
 - Inadequate credit availability to farmers
 - Poor Access to Institutional Credit
 - Inadequate risk coverage through crop insurance

- Technology/Knowledge
 - Lack of technology dissemination and application of new / improved farming practices

- Unskilled Agriculture Workforce
 - There are only 0.001% skilled agriculture workers in India, so there is a dire requirement of skilled workforce by the sector.

- Market Intelligence
 - Asymmetric information about prices & markets
 - Lack of proper market intelligence system
 - Lack of awareness and information to identify prospective national and international markets.
 - Weak Market Linkages: Lack of "Last Mile connectivity"

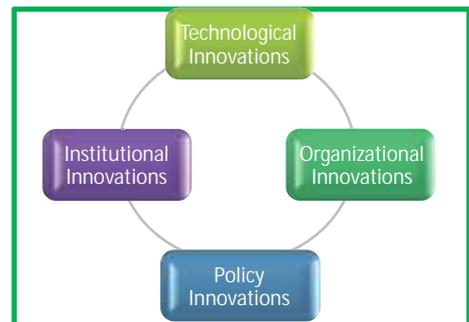
- Declining Investment
 - The total amount of investment in agriculture has declined from 6% of the total land expenditure to 2.5%.

- Increasing Food Safety & Quality Standards

Recommendations (Towards High Value Agriculture-Drivers of Change)

- Policy Changes Required
 - Government needs to introduce policy changes that would address the following areas which would make commercialization more inclusive:
 - Promotion of High Value Crops
 - Desired level of Diversification
 - Improved post-harvest management, value addition and marketing
 - Credit & Pricing
 - Export Promotion
 - Organic Farming
 - Contract Farming
- There are Government Funded Programmes to boost HVA like Horticulture Technology Mission and National Mission on Horticulture. We require more programmes like this to promote HVA.

- Institutional Innovations are significant for the transformation of Indian Agriculture from subsistence to a high growth sector. It can take the form of technologies, organizations, institutions, or policies.



- Partnerships- A Key for Institutional Reforms:
 - Partnerships are an important enabler for institutional innovation in Agriculture and such partnerships will have a positive effect on the Agricultural extension system, which currently follows a largely closed-system.
 - Agricultural Universities in developed countries have taken the route of partnerships with private companies to quickly deploy new technologies and provide support to famers.
- Institutional Enablers to make Partnerships meaningful:
 - State Agricultural Universities (SAU)/ State Government- They can provide Land and Legal Support & can deliver the Policy Commitments.
 - ICAR / SAU / Research Institutes- They can play a crucial role in giving Research inputs and technologies.
 - Central / State Government – They can play role in availing funds, extension workers and market infrastructure
 - Food Companies – They can setup processing technology and units.
 - Agri Input companies – They can demonstrate products, results and new technologies.
 - Banks and Financial Institutions – They can avail finance may be through equity and debt.
 - Farmers – They can learn and adapt the newer technologies.

- Skilling the Unskilled Agriculture Workforce
 - NSFI in association with FICCI is setting up Agriculture Skill Council of India (ASCI), under NSDC which is working on the mandate setup by Prime Minister's National Council on Skill Development. ASCI is targeting to upgrade skills of 56.50 Million people India by 2022.
- Investment:
 - As horticultural crops require assured irrigation for realization of full benefits, investment in micro-irrigation and effective water management would be crucial.
- Land Tenure Policies:
 - Uniform tenancy laws will actually help the farmers to retain the land, be a stakeholder in the project and also earn on the land.
- Targeted subsidies are required to reach the targeted beneficiary.
- The Ministry of Agriculture should permit private sector to locate their R&D units within the premises of Public Research Institutes like IARI and ICAR in similar lines of CSIR.
- Further growth in HV crop production should come through enhancement of yield per hectare through knowledge and technology transfer, and not from area expansion through diversification of cereal lands.
- Marginal mountainous lands, arid and semi-arid regions being brought under developmental plans and coastal areas should all be converted into agri-horti systems as an alternative to shifting agriculture.

Strengthening backward and forward linkages through Vertical Integration for bridging the gap between markets (domestic/export) and producers.

Technical Session II

Opportunities and Challenges in the allied Sector: Key to High Value Agriculture



Chaired the Session

Dr A S Nanda
Commissioner (Animal Husbandry),
Department of Dairying,
Animal Husbandry & Fisheries



Mr. Mohan Saxena
MD, Ayurvet Limited

Topic:

Need for Integrating Livestock and Agriculture : A must for sustainability



Mr. Sunil Bansal
Business Head,
DS Milk Products Ltd

Topic:

Challenges and Opportunities in the Dairy sector



Mr Jagbir Dhull
MD, Skylark Poultries Ltd

Topic:

Poultry Farming , opportunities to Augment Rural Livelihood Options and Diversification in Agriculture



Mr. Girish Aivalli
Group EVP & Country Head,
YES Bank

Topic:

Integrated Dairy Farms: A solution for India's milk crisis

Issues (Opportunities and Challenges in the allied Sector: Key to High Value Agriculture)

- Dairy
 - Declining Productivity- The momentum of milk production has declined over the last decade with growth stagnating at about 5% per annum. Some of the key bottlenecks hindering growth in milk production are:
 - Rapidly shrinking and degrading grazing areas resulting in shortage of green fodder.
 - Increasing feed process resulting in use of low quality feed.
 - Low milk productivity of indigenous breeds.
 - Low technology based system of production in rural areas.
 - Rise in heat stress among cattle on account of global warming resulting in loss of close to 2% of total milk production.
 - Infrastructure: Lack of required infrastructure of chilling plants and bulk coolers leading to deterioration in the quality of milk.
 - Adulteration: Farmers often add additives like vegetable fat, animal fat, starch etc, to increase the fat content of the milk to get a better price for the lot.

- Seasonality factor: It leads to surplus of milk exceeding the processing capacity on one hand during flush season and the underutilization of the processing plants in the lean period.
- Livestock
 - Scarcity of feed and fodder
 - Anti cow slaughter legislation in several states
 - Multiple Issues: Research and development constraints, Animal health and welfare issues, Food safety issues and Environmental constraints
 - Infrastructure: Inadequate market infrastructure, unorganized markets for livestock products, poor cold chain network and poor value addition along the value chain.
 - Lack of by product utilization due to unorganized meat market
 - Insurance: Lack of awareness about cattle insurance and poor insurance cover-livestock insurance scheme launched in 1970 has managed to cover only 7% of the cattle population.
- Poultry
 - Scarcity of feed: Maize and Soy are the most widely used feed ingredients. Shortfall in maize production and rising prices may hit broiler and egg production.
 - Disease outbreaks like Avian Influenza and Highly Pathogenic Avian Influenza (HPAI) hit the poultry industry hard.
 - Supply Chain: Lack of refrigeration and cold storage chains for perishables, poor transport links, red tape at state borders and too many intermediaries in the poultry value chain.
 - By-products: Lack of effective utilization of by products such as slaughter waste, hatchery waste, poultry droppings and litter manure poses a serious threat to the environmental safety.
 - Vertical Integration: Growth of poultry industry is restricted to pockets of South and West. However, vertical integration has moved slowly in Northern and Eastern part of India.

Recommendations (Opportunities and Challenges in the allied Sector: Key to High Value Agriculture)

- Dairy :
 - Mechanization and automation of dairy farms.
 - Sustainable measures to provide better quality feed and fodder by developing technologies that increases productivity of crops in rain-fed areas.
 - Provision of improved seed varieties for fodder cultivation and encouraging seed replacement.

- Maximization of environmental benefits through adoption of green energy measures such as reutilization and effective disposal of manure.
- Establishment of community based high herd size farms which would ensure investment in scaling up, thus improving dairy management systems.
- The good farming practices would improve the yield of cross breed cows to >7000 ltrs per lactation.

- Livestock :
 - Infrastructure:
 - Modernization of traditional abattoirs for hygienic meat production, effective utilization of by-products, waste disposal and environment conservation.
 - Need for Cold Storage houses and Inspection of Slaughterhouses to maintain sanitary condition is vital for the organized development of this industry which is rapidly growing.
 - Livestock as buffer: Livestock products like meat should be recognized as agricultural product which serves as a buffer under stress conditions for small and marginal farmers.
 - Subsidy: Various tax incentives and subsidies for agro development should be equally applicable to the livestock sector.
 - Legal support mechanism to facilitate the gainful utilization of the culled buffalo and surplus male buffalo.
 - Need for consistent and uniform policy across different states for livestock slaughter for export. Male buffalo calf rearing for meat export.

- Poultry :
 - Infrastructure: Addressing infrastructure requirements, especially cold chain and transportation.
 - Ensuring regular supply of feed at a competitive price for poultry industry.
 - Tax Incentives: Various tax incentives for agriculture should be applicable to poultry. Poultry faces restrictions on its use of agricultural land, attracts higher electricity tariffs and sales tax than agriculture, pays tax on income earned from poultry farms, and is subject to different land and labor law.
 - Contract Farming: Encouraging contract farming and vertical integration between corporate and farmers across India would benefit small farmers through relaxing the burden on land and complementing farm income.

Technical Session III

Enhancing Farm Productivity: Technology Driven Approach towards Farm Inputs



Chaired the Session

Mr. Atanu Purkayastha, IAS
Joint Secretary (Seed), Ministry of
Agriculture, Government of India



Mr. Dhiraj Pant
Director, Monsanto India

Topic:
Role of Biotechnology in increasing farm productivity: Challenges and Way Forward



Dr. R K Tewatia
Chief Agriculture Sciences, FAI

Topic:
Role of Specialty fertilizers & customized fertilizers in Hi Value Crops: Issues and Strategies



Mr. Rajvir S Rathi
GM - Market Acceptance –
South & East Asia,
Bayer CropScience Ltd.

Topic:
Propel Farming's Future - Seed to Harvest



Mr. Subit Chowdhury
Head Strategic Alliance and Institutional
Business, UPL

Topic:
Role of Plant Protection for High Value Agriculture and meeting Food Shortages



Dr B L Saraswat
Executive Director
National Bee Board

Topic:
Beekeeping : Fifth & very important input for sustainable development of Agriculture

Issues (Enhancing Farm Productivity: Technology Driven Approach towards Farm Inputs)

- Water availability
 - Draw-out of fresh water for Agriculture purposes are exceeding Water replenishment in many areas.
- Fertilizers & Nutrients
 - Stagnant fertilizer consumption, negligible increase in acreage and low agricultural yield.
 - Low pesticide consumption (less than 2% of worldwide usage) and limited to only 25% of arable land.
 - Low purchasing power and fragmented land holdings.
 - Low awareness of herbicides and fungicides.

- Low investment in R&D by Indian Agrochemicals Majors as compared to global players.
 - Patent protection is very less.
 - Availability of skilled manpower pools and raw material.
 - Use of Water Soluble Fertilizers (WSF) are restricted to a few states particularly in high value horticulture and cash crops. Five states namely Maharashtra, Andhra Pradesh, Karnataka, Gujarat and Tamil Nadu account for more than 90% of total consumption of Water Soluble Fertilizers (WSF).
 - Very high price of WSFs (>5 times than conventional fertilizers)
 - Less involvement of research institutes (ICAR & SAUs) in R&D of WSFs.
 - Inadequate spread of sale points of specialty fertilizers.
 - Lack of awareness/knowledge about proper use of specialty fertilizers.
 - Inadequate Government support (subsidy) on specialty fertilizers.
- Labour- Less availability of labour & rising cost (sowing, weeding, picking)
 - Weed Management-Absence of effective broad Spectrum Herbicides
 - Insect Resistance Management
 - Bee Keeping
 - Lack of scientific data on choice of Honey Bee species for commercial Bee Keeping and for promoting cross pollination.
 - Lack of infrastructure for production, adequate laboratories, awareness about yield increase, institutional support in terms of bank loans, proper pricing policy and consumer awareness.
 - Poor quality control for production of honey
 - More emphasis for production of honey instead of other bee products such as bees wax, pollen, propolis, bee venom and royal jelly.

Recommendations (Enhancing Farm Productivity: Technology Driven Approach towards Farm Inputs)

- ❖ Enhanced productivity-
 - Three pillars for Productivity Enhancement are:
 - Breeding- Strategically breed plants to create new, more robust seeds that perform better and longer in the field. Cotton & Corn Crop has seen the advantage due to application of technology and high yielding hybrids
 - Agronomics- Using precision agriculture, density, better plant health/ protection (seed treatment, fungicide) make acres more productive.
 - Biotechnology- Supplement breeding advancements by adding special beneficial genes to the plant.

- ❖ Water availability
 - Well Irrigation is overused and we need to make canal investment intensive.
 - Drought-tolerant crops should be introduced.
 - Partnering to share technology with developing world farmers.
- ❖ Fertilizers & Nutrients
 - Fertilizer penetration is high but scope to improve balance of fertilizer types. Safe pesticides with low residues and low half-life should be introduced.
 - Promote usage of herbicides and fungicides.
 - Integrate Chemical control with Biological pesticides.
 - Seed Treatment, Seedling Dip, Nursery Treatment to be promoted to ensure low pesticide usage in the main field.
 - Subsidize Green House cultivation for High Value Crops, hydroponics for certain crops.
 - Popularize Drip irrigation with soluble fertilizer application and expanding coverage of drip fertigation in new areas and crops.
 - Awareness on Bio-pesticides and create a pesticide use regime which would be crop and pest centric.
 - Encourage Indian Pesticide manufacturers to undertake R&D to develop better and safer molecules and involvement of research institutes in developing suitable grades of SF.
 - Ensuring adequate availability of Specialty Fertilizer (SF) at reasonable prices.
 - Government of India may provide subsidy on WSF by covering them in NBS scheme.
 - While the government must bring in policy reforms in terms of easy introduction of new fertilisers, uniform duty structure on different speciality fertilisers, the industry needs to adopt a different marketing approach.
 - The marketers have to shift their focus from selling product to selling crop nutrition solutions.
- ❖ Beekeeping
 - Awareness about role of honeybees in increasing crop yield through pollination.
 - Distribution of quality honey containers, honey extractors and other equipments to the beekeepers to maintain the quality of bee hive products.
 - Setting up of collection, marketing & processing centres/ facilities for bee hive products.
 - Integrated approach for overall development of beekeeping by integrating various schemes of Department of Agriculture and other Departments/Agencies/Organization of

Government of India /other National and International Organizations.

- Registration of beekeepers for traceability.
Center for collection & storage of honey and other bee products & their quality control.

❖ Agronomic Practices

- Organize continuous training to farmers and distribution channel through partnerships between Government, NGO's, Universities and Agri Business Industry to reduce indiscriminate use of pesticides.
- Use of IT and creating a "knowledge cloud" for high tech farmers to access data and plan cropping pattern as well as plant protection inputs.
- Training of extension workers, dealers and farmers on proper use of WSF (product type, rate, time) to reap the benefits of judicious pesticide usage and enhanced quality & productivity.

Technical Session IV

Revamping Agriculture: Farm Mechanization and Technology Intervention



Chaired the Session

Prof Gajendra Singh
Ex-President, Indian Society of Agricultural Engineers (ISAE).



Mr. Mukul Varshney
Vice President
John Deere India

Topic:

Institutionalizing Custom Hiring of Farm Equipments/ Machinery : Training needs for entrepreneurship



Mr. Rajan Aggarwal
Head (Crop solutions and Application Marketing), Escorts

Topic:

Challenges in the farm mechanization and plausible interventions needed



Mr. Amit Sood
Vice President
CLAAS India

Topic:

Farm mechanization beyond tractors



Prof Gajendra Singh
Ex-President, Indian Society of Agricultural Engineers (ISAE).

Topic:

Combating labor deficiency through cost efficient farm mechanization: Success story from the field

Issues (Revamping Agriculture: Farm Mechanization and Technology Intervention)

❖ Customer

- Integrating marginal farmers into farm mechanization gambit-Marginal farmers have a low risk appetite and they want to use try and tested methods and due to this the Service providers are not comfortable due to receivable risk.
- The higher cost of equipment, variety of equipment/size/technology, different conditions/crops, different and inconsistent ergonomic practices results into variety of equipment, higher cost and low productivity.

❖ Tractor centric

- In India, farm mechanization penetration beyond tractors remains low.
- Implements usage has also not developed sufficiently beyond tiller, plows, and rotary tillers.

- It is easier to get finance on tractors, than on farm mechanization equipment other than tractors.
- Tractors are into various applications as poor substitutes like dozing, moving people, goods or even earth in trolleys without good brakes. ○
- ❖ **Research & Development**
 - In a country like India which has different needs because of typical Farm practices, Cropping patterns, Soil conditions and Land holdings etc, Research-oriented Product Development is vital to address typical, evolving needs
- ❖ **Delivery mechanism**
 - There is an urgent need of Resource building, Knowledge transfer, Skill building and correct usage of technology
 - The challenge for Institutions is to design and develop versatile equipment
 - Blending of Agronomic practices and farm mechanization is the need of the hour.
- ❖ **Rural Infrastructure**
 - Field accessibility and machine movement are major concerns in rural areas.

Recommendation (Revamping Agriculture: Farm Mechanization and Technology Intervention)

- **Community Pooling - "pay per use" model**
 - Equipment banks in target villages/blocks can be build up through equity participation by Private sector and Government.
 - It can be managed and maintained by Private sector with the support of trained service provider making it accessible to all farmers in the catchment area.
 - This will help in reaching out to strategic villages based on Government priority and will generate self employment opportunity – "pool of farm service providers"
- **Value Proposition**
 - Value Proposition can be achieved by reducing machine variety to increase the utilization. This can be done by innovative multi-purpose and multi-crop equipment, focused on target crop and equipment. This would increase economic viability, reduce investment & complexity.
- **Concerted approach**
 - "Center of Excellence" for specific equipment should be created

- Synergy in agronomy and farm machinery needs to be build up
- New package of practices compatible for mechanization needs to be defined.
- Field accessibility and machine movement
 - It should be a part of rural infrastructure development program.
- Though India has developed the largest tractor Industry in the world (by numbers). But, market of other products remains under-developed in penetration of volumes & technology players, correcting this trend will need a conscious effort.
- Push mechanization through hiring entrepreneurs
 - Hirers or groups may be encouraged to specialize in a product category
 - Viable business case must form the basis of growth
- Easy finance will encourage entrepreneurs
 - Facilitate lower margin funding or Loan to Value (LTV)
 - Finance without property mortgage or RTO registration (for products not registered)
 - Loss pool or Credit guarantee for banks and Non-banking Financial Companies (NBFC) financiers will help encourage easier financing of high value equipment to new entrepreneurs.
 - Private NBFC to be involved (presently subsidies to be allowed for such finance).

Technical Session V

Transforming Agriculture: Role of Precision Farming



Chaired the Session

Mr Kris Iyengar
Joint Secretary, National Committee on
Plasticulture Applications in
Horticulture (NCPAH).



Dr . TBS Rajput
Principal Investigator
Precision Farming Development
Centre, IARI

Topic:

Policy Road Map for adoption of
precision farming: Structural
challenges and way forward



Mr. Surinder Makhija
Strategic Adviser
Jain Irrigation

Topic:

Optimizing utilization of water
resources through micro irrigation



Mr. Jitender Singh
NETAFIM

Topic:

Precision farming: emerging models
from the field



Dr. Balraj Singh
Director, NRCSS

Topic:

Protected cultivation in enhancing
horticulture productivity: Success
Stories

Issues (Transforming Agriculture: Role of Precision Farming)

- Precision agriculture aims to optimize field-level management with regard to:
 - Crop science: by matching farming practices more closely to crop needs (e.g. fertilizer inputs);
 - Environmental protection: by reducing environmental risks and footprint of farming (e.g. limiting leaching of nitrogen);
 - Economics: by boosting competitiveness through more efficient practices (e.g. improved management of fertilizer usage and other inputs).
 - Precision agriculture also provides farmers with a wealth of information to:
 - Build up a record of their farm;
 - Improve decision-making;
 - Foster greater traceability
 - Enhance marketing of farm products
 - Improve lease arrangements and relationship with landlords
 - Enhance the inherent quality of farm products (e.g. protein level in bread-flour wheat)

Recommendations (Transforming Agriculture: Role of Precision Farming)

- Training of Farmers is required for Effective Utilization of the Hi-Tech inputs for producing more and better high value crops.
- Productivity in both irrigated & rain fed agriculture need to be improved.
- Widespread access to water and technology to be ensured.
- New policies / institutions and technologies should be devised.
- Designing of strategies to enhance water security for farmers.
- Environmentally sustaining technologies should be promoted.
- Applied Research & Extension Services should be supported.
- Diversification of cropping pattern – more cash crops.
- Strengthening of rural economies and markets by creating opportunities to Market Agro product.
- Value Addition to Farming community through Capacity Building and Training.
- Subsidizing land below 0.2 hectare for micro-irrigation.
- Developing models for inter-ministerial & inter-departmental interaction to bring canal catchment areas under micro-irrigation.
- Making the interpretation process more automatic, generic and mechanistic as against empirical.
- Developing simple and robust technologies and methodologies.
- Evaluation at multiple sites with standardized methodologies providing proof of economic and environment benefits.
- Customization of the precision farming technology to the actual Indian field conditions.

Technical Session VI

Business Opportunities in High Value Agriculture: Financial Inclusion and Forward Linkage



Mr. R. Ramaseshan
Managing Director & CEO
NCDEX

Chaired the Session



Mr. R. Ramaseshan
Managing Director & CEO
NCDEX

Topic:

Role of Commodity exchange in marketing of High Potential Products: Success Stories and way forward



Mr. K J Taori
ICICI Bank

Topic:

Rural Banking on the Electronic Highway



Mr. Michael Andrade
Senior Vice President
HDFC Bank

Topic:

Agri Supply Chain- Enhancing Farm productivity through Partnerships and shared Platforms



Mr. Sanjeev Asthana
Chairman, NSFI

Topic:

Combating labor deficiency through cost efficient farm mechanization: Success story from the field



Mr. Sumanta Pal
Senior Vice President
SAHAJ

Topic:

Role of CSC as a new age institution in ensuring financial access

Issues (Business Opportunities in High Value Agriculture: Financial Inclusion and Forward Linkage)

- Marketing
 - In India, Agricultural Produce Market Committee's (APMC) are area specific, limited to geographical location where producers & buyers physically gather to trade.
 - It follows a manual auction process which is opaque and imbalanced.
 - There is no central dissemination of prices. Farmer has no prior knowledge of price trends.
 - No modern facilities at the market like weighing, testing, grading, storing, etc.
 - In Mandies the goods are not funded and there is a high holding cost for trader and no holding power to the farmer.
 - Farmers have to sell the produce at low realization if sold under duress and there is a price risk if held.

- Produce has to be made physically available in the market, therefore lower arrivals in spot markets.
- Payment to farmers is not monitored.
- Financial Access
 - Institutional Financing-Banks are mandated to lend 18% of their Assets to Agriculture, of this 13.5% has to be done directly to farmers and 4.5% indirect. As a majority of the segment is covered by small holder farms , banks face numerous problems, such as:
 - Lack of credit history and documents
 - Cost of collection from deep geographies.
 - Risk of Fraud.
 - Low Viability, due to low ticket size coupled with low interest rates.

As a result of this, bank finance to agriculture is not having the commensurate impact on development of the segment.

- Unorganized Money lending:

Farmers prefer raising loans from money lenders since it is available at their door-step and that too hassle free, even though the rate of interest is high.

- Supply Chain
 - Small Producer face challenges in supplying the produce to the market and the current kind of informality in the supply chain will not work in today's modernized market.
 - They face problems in self organizing themselves whether in form of co-operatives, Self Help Groups (SHG's) and producer companies which got a legal sanction and ability to negotiate with customers-supply chain companies or retail chain companies.
 - There is a lack of capacity building of farm management due to which they fail in meeting the quality as well as the quantity parameters of the big retail companies.

Recommendations (Business Opportunities in High Value Agriculture: Financial Inclusion and Forward Linkage)

- ❖ Commodity Exchange– A Transparent Market
 - Fair price realization for farmers and consumers
 - Better quality arrivals
 - Price information known to all
 - Manipulation of prices is difficult

- Better monitoring of arrivals in the markets
- Mandi modernization project-It will help the market participants in adapting the new technology and will also welcome quality consciousness.

- ❖ Optimum sale process
 - Arriving goods are sampled and graded. Graded goods are stored and the farmer gets 50 to 60 per cent of the value of goods through banks.
 - Farmer scans the price trend and can decide to sell immediately or later.
 - Selling is through a transparent electronic auction system. National participation for better price.
 - Payment to farmers guaranteed through the auction system. No payment risk to the farmer.
 - The loan is repaid by the auction system directly to the bank. The balance is credited directly to his account. The loan can also be rolled over to the trader and the process can repeat.
 - Prices widely circulated for the benefit for all.
 - Buyer takes delivery from the warehouse.

- ❖ Financial Access
 - Creation of Common Service Centres (CSC) across the country to bridge the digital divide between rural and urban India. Each CSC will be owned and operated by a Village Level Entrepreneur (VLE) who will ensure to the villagers all services that their urban counterparts are already familiar with.
 - CSC can act as a catalyst for Financial Inclusion:
 - One Stop front-end delivery point for Government, private and social sector services
 - Under NeGP, CSCs are here to stay
 - Under PPP, local representation
 - Widespread network for public access
 - Cost-effective channel, with high footfall

- ❖ Supply Chain-Linking Small Farmers to Market
 - There is an urgent need to make enabling Agri-Infrastructure with a viability gap.
 - Organized Producer Agencies needs to be created for HVA like Dairy cooperatives of National Dairy Development Board (NDDB)
 - Capacity building of farm management should be provided which will enable farmers in meeting the quality as well as the quantity parameters of the big retail companies.

Technical Session VII

Farm to Fork in High Value Agriculture: Post Harvest Infrastructure and Value Addition



Mr. B B Pattanaik,
Managing Director, Central
Warehousing Corporation (CWC)

Chaired the Session



Mr. Pawanexh Kohli,
Cross Tree

Topic:

Innovative solutions & Cold Chain management of high potential products in India: PPP for Post Harvest Technology



Mr. Rajesh Sinha
Executive Vice President
NCDEX Spot Exchange

Topic:

Creating market led post harvest infrastructure: Role of New Age markets



Mr. Vishal Sehgal
Metro Cash & Carry

Topic:

Creating sustainable Agriculture marketing supply chains

Issues (Farm to Fork in High Value Agriculture: Post Harvest Infrastructure and Value Addition)

- ❖ Loss of Equity for farmers: The farmers lose out due to-
 - Perishability
 - Information Asymmetry
 - Lack of Holding Capacity: Inability to achieve economies of scale/scope.
 - APMC Laws
 - Not part of integrated Value Chains (except milk).
 - Inefficient & non-inclusive supply chain to market.
- ❖ Post Harvest Losses:
 - Infrastructure Gap- In India we have traditional markets like Haats, Mandies, private grain markets called Gola, Dabba trade, etc. with no modern weighing, testing, grading, storing facilities.
 - Inefficient Cold Chain
 - Negligible Market Linkage
 - Technology needs
- ❖ Lack of consumer awareness, hygiene and food safety.
- ❖ Lack of quality and transparency during the transaction of products.
- ❖ There is a huge knowledge gap which hinders the reach out of technology.

Recommendations (Farm to Fork in High Value Agriculture: Post Harvest Infrastructure and Value Addition)

- ❖ Cold Chain for Value Realisation
 - Refrigerated Transport
 - Use of refrigerated trucks, cars, van, rail, containers and ships for transporting perishable products.
 - Surface Storage
 - To avoid post harvest loss the refrigerated warehouses can be used for distribution of perishable products.
 - Quality Assurance
 - Assurance of Technical and Quality parameters to ensure Shelf life and saleability.

- ❖ Market Linkage
 - Linking the farm directly to private wholesale markets and cooperative wholesale markets
 - Transparency in commerce & model
 - Flow of FDI into cold chains and retail should be encouraged.
 - Implementation of Electronic auction mechanism where daily auction >10 cr.

- ❖ Institutional Change
 - Better synergy between various schemes
 - Cold Storages should be networked and to be strengthened through National Centre for Cold Chain Development (NCCD).
 - Coactions with non-horticulture cold chains like meats, poultry, fish and pharma should be promoted and developed.
 - Linkage through WDRA to benefit through Non-negotiable warehouse Receipts (NWR) for perishables.

- ❖ Financing & Incentives
 - Catalyze & strengthen PPP & co-operative investments
 - Concessional line of finance through NABARD
 - Schemes on tap and better synergy between Departments and Ministry.
 - Develop cold chain for non-horticulture products.

- ❖ Policy as catalyst
 - State level specific policy papers on establishing cold storages and potential of cold chain.
 - Remove Inter-State barriers for perishables movement.
 - Introduce more dedicated container trains for horticulture perishables.

- ❖ Knowledge Enhancement
 - Workshops with existing traders and agents encouraging buy-in as entrepreneurs.

Valedictory Session

Mr Sompal Shashtri, Former Chairman, National Commission of Farmers & Union Minister of State for Agriculture & Water Resources in his Valedictory address stressed on the reducing contribution of Indian Agriculture to National GDP.

He said, "Agriculture continues to contribute 14.2% to National GDP but still 62% of population is depended on it. This is a very clear index of the increasing gap between the per capita income of rural areas depended on agriculture and the incomes of non-agriculture sectors".

"There is too much burden on the land resource in India and this is where skill can play a significant role i.e.; to impart skills to the rural people so that they become employable with newer skills which is required in the phase of industrialization. As the service sector is becoming important, it can therefore increase the per capita income in the agriculture sector by upgrading the skills".



"Agriculture continues to contribute 14.2% to National GDP but still 62% of population is depended on it."



"The value that is attributed to a commodity is a functional set of factors, value is not intensive to a product, value is something which is created."

Mr Sanjeev Chopra, IAS, Mission Director, National Horticulture Mission (NHM) in his keynote address in the Valedictory Session highlighted the importance of HVA and also shared the innovative schemes of National Horticulture Mission (NHM). He said, "We have come to the crossroads of Indian Agriculture. All agriculture is High Value Agriculture; it's just that some agriculture products are monetised well. The value that is attributed to a commodity is a functional set of factors, value is not intensive to a product, value is something which is created."

He elaborated on some crucial facets of HVA, such as:

- When farmer or farmer group's think about HVA they have to think differently, as it is different from conventional agriculture. As technology upgrades are much faster, market fluctuations are found to be important and the dimensions on the produce is handled in a completely different way from the conventional product handling.

1. The application of technology is becoming more market driven. The technologies which can ensure smoother transaction for farmers can be adopted to leverage their growth.
2. For HVA, the collaboration and cooperation between farmers, private sector, government and regulatory bodies must work in absolute sync to deliver the desired results.
3. Livelihood will not grow from farming parse but it will grow from services around the farm. The services around HVA will generate more opportunities for skill development and its providers and this will lead to a virtual cycle of prosperity. HVA will ensure that the labour value is converted into a service value and here NSFI can play a very important role.

He also mentioned about the following initiatives of National Horticulture Mission (NHM) for HVA:

- ❖ PPP-IAD (Public Private Partnership for Intensive Agriculture Development)
In this initiative, the State Governments are inviting corporate, skill development organizations and other stakeholders engaged in the sector to ensure the entire value system around the commodity which engages a group of farmers can be developed.
- ❖ NCCD (National Centre for Cold Chain Development) *"High Value Agriculture will ensure that the labour value is converted into a service value and here NSFI can play a very important role"*. This initiative was launched to reduce the loss of produce in transit which is about 15-20% of the total produce and it's a net National loss. He added, that "The current requirement is 70 lakh MT of Cold Storage capacity in the country and currently we are only having 30 lakh MT capacity of Cold Storages which implies that the gap is very wide. And, the existing capacity is not being optimally used; skilling can play a very important role in ensuring the optimal usage of the existing capacities".
- ❖ Vegetable Urban Cluster
This initiative is introduced to cut down the cost of intermediation by direct procurement of produce by larger companies & stores from the farmers supplying food and vegetables to urban centres.

He congratulated NSFI for bringing all the stakeholders on a common platform of Global Agri Connect to deliberate on the issues of emerging sector of HVA. He also acknowledged the effort of NSFI in attracting youth's participation in the Conference and Exhibition as in Agriculture sector the biggest challenge is to attract and retain youth in farming.

Mr Sanjeev Asthana, Founder & Chairman, NSFI welcomed all the dignitaries in the Valedictory Session. He highlighted on the issues discussed in the one and half day conference attended by the eminent dignitaries of agriculture sector and also mentioned about the overwhelming response received during the Conference and the Exhibition.

During the Valedictory session, the Awards were distributed by the Chief Guest and other dignitaries for the exemplary work done in the different sectors of agriculture in the following categories:

Categories of Awards:

- ❖ Central Government
 - Excellence in Promotion of Horticulture in India
 - Excellence in Livelihood Promotion through Farmers Producer Organization
 - Excellence in Protecting Indian Plant Varieties
 - Sustainable Development of Farmers through value addition in Coconut
 - Excellence in Promoting Hi Value Agriculture through Plasticulture
 - Promotion of Bee Keeping in India through commercialization
 - Excellence in skilling and research in Soil and Water Conservation in India
 - Promoting Bamboo from forest product to livelihood product
 - Excellence in Promoting Value Addition in Horticultural crops in North East
 - Excellence in Facilitating Small Entrepreneurs
 - Excellence in Reducing Wastage of Food Products

- ❖ State Government
 - Making farmers entrepreneurs in Horticulture
 - Promoting Excellence in Horticulture Development in State
 - Sustainable Development of Farmers through commercialization of Horticulture
 - Promotion of Hi Value Horticulture in State
 - Development of Commercial Horticulture in State
 - Excellence in Promoting and Branding of Gujarat Horticulture

- ❖ North East
 - Excellence in Hi Tech Horticulture
 - Promotion of Precision Farming in Horticulture
 - Use of Advance technology of Horticulture
 - Promotion of HI Value Horticulture in Flowers
 - Excellence in Promotion of Handloom and Handicraft of North East
 - Excellence in Promotion of Orchid Cultivation

- ❖ Plasticulture
 - Technology dissemination in Efficient use of Water
 - Use of Nets in Integrated Pest Management

- ❖ Biotechnology
 - Leader in Promoting Sustainable Agriculture through Biotechnology
 - Excellence in Promotion of Hybrid Paddy

- ❖ Post harvest Technology & solutions Providers
 - Sustainable approach in Cold Chain Management

- ❖ Agro Chemicals
 - Leader in Seeds and pesticides industry

- ❖ Innovation
 - Innovation in Weather forecasting for farmers
 - Innovation in changing lives of farmers through mobile technology

- ❖ Farm Mechanization
 - Excellence in Promotion of Advanced Tractors in India
 - Excellence in Mechanization of Indian Farming
 - Excellence in Farmer's Friendly mechanization in Agriculture

- ❖ Financial Inclusion
 - Innovative Banking Solutions for Rural India

- ❖ Commodity Exchange
 - Promotion of Direct Market linkage of Farmers

Dr HS Gaur, Dean & Joint Director, IARI welcomed the dignitaries, delegates on behalf of Director, IARI and he complimented the efforts of NSFI in bringing together the industry, academia, farmers and policy makers on one platform to discuss the critical issues related to an important facet of agriculture i.e; High Value Agriculture.

Dr Satender Singh Arya, CEO, NSFI proposed the Vote of Thanks and thanked all the dignitaries, delegates, exhibitors and media for their active participation in the Conference and Exhibition.

Road Map

Policy support is needed for continued and sustainable growth of HVA production and profitable marketing of the produce. Major policy areas to be addressed are:

- ❖ Promotion of High Value Crops:
 - Gross returns from the fruits and vegetables are much more than the field crop groups. Providing investment grants to farmers, communities and horti-business could help compensate farmers and at the same time, facilitate diversification towards high value crops or horticultural undertakings. As a onetime grant, there would be lesser permanent subsidy burden, which would help in containing annual fiscal costs. Hills and mountains, arid & semi-arid regions, and coastal areas do offer opportunities for area expansion under horticultural crops.
 - Rationalization of input subsidies, strengthening of market institutions through promotion of vertical coordination between farms and firms, and reinvigorating R & D institutions need focus.
- ❖ Improved Post Harvest Management, Value Addition & Marketing:
 - As processing is becoming increasingly important to help farmers to realize a better price and to even out seasonal fluctuations in production and availability there is a need to offer fiscal concessions on products manufactured from fruits and vegetables or their parts.
 - Encouragement for preparations of semi-finished or intermediate products at farm, village or tehsil level, and linking these units with modern / advanced units for further processing, packaging and branding should also be attempted.
- ❖ Infrastructure:
 - There is a need to scale up existing programmes and initiatives. Investment in rural infrastructures, in particular roads as well as storage structures, is crucial.
- ❖ Credit and Pricing Policy:
 - Production and marketing of high value commodities are capital intensive. Financial institutions must play credit support role with easy repayment terms.
 - Based on production cost, price parity needs to be worked out for perishable horticultural crops.
 - There is no minimum support price (MSP) for crops other than paddy, wheat, sugarcane with its operational part for major High Value Crops needs consideration.
 - Hurdles in enhancing desirable farm-corporate relationship for bringing high quality and low cost produce on the retail self, need to be addressed.

- Integration between farm level prices and retail prices is essential. Based on production cost, price parity needs to be worked out for perishable horticultural crops.

- ❖ Export Promotion:
 - The export of High Value commodities requires controls on food safety and quality. Both expertise and infrastructures are needed for addressing food safety issues.
 - Market demand for quality produce and low import duties/applied tariff encourage import of HVCs. Reducing bound tariffs for export of fresh fruits and export promotion measures including nurturing Agriculture Export Zone (AEZs) need focus.
 - Food safety management system development and addressing non-tariff barriers are major concerns.

- ❖ Policy guidance for Contract farming (CF):
 - Established agro-processing players/ Corporate Houses are sourcing raw material from farmers directly. SAFAL/Mother Dairy experiences are encouraging. Some basic requirements for successful CF are:
 - Development of comprehensive, clean, equitable and farmer centric agreements. Well-defined clauses dealing with
 - quality standard
 - withdrawal conditions
 - pricing standards
 - paying arrangement,
 - arbitration mechanism

 - Enhancement of smallholder competitiveness and increase of labour intensity, both through on-farm and non-farm activities, are possible by promoting HVCs. Domestic market offers a very large potential for fruits and vegetables.

An amalgamation of coordination between Farmer Cooperatives, Producer Organizations, Private Enterprise and policy makers can only bring about the desired transformation in High Value Agriculture sector.

About Global Agri Connect (GAC)

Global Agri Connect is a flagship programme of National Skills Foundation of India (NSFI) organized every year.

NSFI in association with IARI took the initiative to organize second edition of “Global Agri Connect” after the grand success of the first edition to sensitize farmers and Indian Agri Industry towards maximum value creation in high value agriculture. It was organized from 2nd to 3rd November'2012 at BP Pal Auditorium, IARI, New Delhi.

The Principal Co-Organizer was IARI with Research Partner- Columbia Water Centre and Co-Organizers like National Horticulture Mission (NHM), National Seed Association of India (NSAI), NCPAH, NERAMAC, PMFAI, CIH-Nagaland and National Bee Board. The focus areas of GAC'2012 were:

- High Value Agriculture
- Horticulture
- Farm Mechanization
- Precision Farming & Plasticulture
- Financial Inclusion
- Technology

Highlights of GAC'2012:

- The Summit was attended by 500 plus delegates from Central Government, State Government officers, International Delegation, CEO's of leading MNC's & Indian Companies.
- More than 30,000 farmers attended the three days Farmer's Meet (Krishi Goshthi).
- 75 Exhibitors from across the Globe showcased there latest technologies and solutions through Exhibition. The major Exhibitors are as follows:

Government Bodies & Institutes

- Central Warehousing Corporation (CWC)
- Indian Institute of Horticultural Research
- Indian Meteorological Department
- Iffco Kissan Sanchar Limited (IKSL)
- Centre for Agricultural Technology Assessment and Transfer (CATAT)
- Directorate of Maize Research
- Central Institute of Agricultural Engineering , Bhopal
- National Bee Board
- PCRA, Ministry of Petroleum & Natural Gas
- Agricultural Technology Information Centre(ATIC)

- Central Poultry Development Organization
- Central Institute of Post Harvest Engineering and Technology (CIPHET)
- National Small Industries Corporation
- Central Soil and Water Conservation Research and Training Institute
- Karnataka State Agricultural Marketing Board
- National Bamboo Mission
- NERAMAC, Ministry of DoNER
- NEHHDC, Ministry of DoNER
- NCPAH, Ministry of Agriculture
- Protection of Plant Varieties and Farmers' Rights Authority (PPVFRA)

State Horticulture Missions

- Government of Uttarakhand
- Government of Orissa
- Government of Punjab
- Government of Mizoram
- Government of Arunachal Pradesh
- Government of Tamil Nadu
- Government of Chhattisgarh
- Government of Manipur
- Government of Sikkim
- Government of Haryana

Agri-Equipment & Machinery manufacturers

(showcased their tractors, harvesters and machineries in the open bay area of size)

- Tractors And Farm Equipment Limited (TAFE)
- John Deere India Pvt Ltd
- Escorts
- Jain Irrigation Systems Ltd
- CLAAS India Pvt. Ltd

MNC's & Corporates

- Bayer BioScience Pvt. Ltd
- Monsanto India Ltd

- BASF India
- Blue Star Limited
- Adani Agri Fresh Pvt Ltd
- Excel Crop Care Limited
- United Phosphorus Ltd
- Coromandel International Limited
- Ayurved Limited
- SAHAJ e-Village Limited

Financial Institutions

- HDFC Bank
- Punjab National Bank
- ICICI Bank Agri-Trading
- National Commodity & Derivatives Exchange Limited (NCDEX)

ICT organizations

- Reuters Market Light (RML)
- Express Weather

About NSFI

National Skills Foundation of India (NSFI) is a not for profit foundation focused on the objective of skill building and development of vocational opportunities for India's large but relatively unskilled workforce.

NSFI is the lead proposer for National Skill Development Corporation (NSDC)- "Sector Skill Council on Agriculture" along with the support of leading government Institutions, Industry Bodies & leading Corporate.

NSFI has taken initiative for establishment of a Centre of Excellence in Agriculture and Horticulture in Chhattisgarh and Uttar Pradesh and submitted a proposal to the state Gov



Focus Sectors

- Agriculture, Food Processing & allied sectors
- Rural Development
- Livelihood
- Education
- Digital Literacy

Activity Charter

- Policy, Research & Advocacy
- Training, Evaluation, Certification and Placement
- Centre of Excellence for Unexplored sectors

Valedictory Session



From left to right

Mr Sanjeev Asthana, Chairman-NSFI,
Mr Sanjeev Chopra, IAS, Mission Director-NHM,
Mr Sompal Shashtri, Former Chairman, National Commission of Farmers &
Union Minister of State for Agriculture & Water Resources,
Dr H S Gaur, Dean & Joint Director-IARI, **Dr Satender Singh Arya**, CEO-NSFI

Highlights of Global Agri Connect 2012



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