



सत्यमेव जयते

Government of India
Ministry of Agriculture
Department of Agriculture and Cooperation



National Centre for Cold-chain Development

Newsletter

March 2014



MESSAGE FROM THE SECRETARY

Shri Ashish Bahuguna, Secretary, Department of Agriculture & Cooperation

I am glad to learn the National Centre for Cold-Chain Development (NCCD) is bringing out its first Newsletter to highlight the developments taking place in the cold-chain sector in the country.

Although cold storage capacity of over 30 million tonnes has been created in the country, the concept of cold-chain is still in its infancy in India. Considering the fact that we are producing about 270 million tonnes of horticulture produce every year, the development of cold-chain networks assumes high priority.

Development of cold-chain infrastructure is therefore being given special thrust under the Mission for Integrated Development of Horticulture (MIDH) during the XII Plan. NCCD is expected to play a proactive role in providing technical back stopping for the development of cold-chain facilities in the country, that will meet international standards.

During the past one year, NCCD has contributed significantly in redefining the concept of cold-chain in India, besides helping in formulation of a policy framework for this sector. NCCD is one of the National Level Agencies under Mission for Integrated Development of Horticulture (MIDH) with the mandate to take up specific assignments on capacity building, technical exchange programme with International agencies, publication of cold chain standards and awareness generation programmes.

This Newsletter is expected to be published on a monthly basis for the benefit of all the stake-holders involved in the cold-chain sector. Feedback from the industry and others is welcome to make the Newsletter more informative and meaningful.



MESSAGE FROM ADDITIONAL SECRETARY

Shri Dinesh K Jain, Additional Secretary, Department of Agriculture & Cooperation

India's farming community has demonstrated phenomenal success with the horticulture sector having had a record production of 269 million metric tons. With production levels improving, perishable produce continues to suffer a high level of wastage and this must be addressed by developing specialised supply chains.

NCCD was established with the agenda to promote the development of cold chains across user segments, and is modelled to function with the participation of public-private stakeholders. This PPP model involves close collaboration between private and public organisations, domain experts, financiers & investors, technical institutes and user groups.

The logistics sector and the food industry are expected to be the mainspring of future cold-chains in India. NCCD has already undertaken tasks towards addressing some of the challenges to such development.

To further correlate cold-chain development with global practises and to stimulate change, there exists the need to have uniform technical standards and cold-chain management protocols and skills development to implement these. Towards this, NCCD will also closely work with technical & business institutes including IITs, ITIs, IIMs and others in this field.

I congratulate NCCD for the tasks undertaken so far and wish it speed for its future work.



MESSAGE FROM DIRECTOR NCCD

Shri Sanjeev Chopra, Joint Secretary (IC) / MD (MIDH & NMMI)

I am delighted to see that the first edition of the NCCD Newsletter is going to the press. The newsletter will be a regular feature, and will keep stakeholders posted about developments in the sector.

As many of you are aware, the initial focus of NCCD was on generating general awareness about the 'untapped potential' and 'missing links' in the cold-chain, especially with regard to refrigerated transport and pack houses, besides organising interventions in capacity building and skill development. Within a short span of two years, NCCD has emerged as a professional body for cold-chain sector, and played a seminal role in assisting the Mission for Integrated Development of Horticulture to spell out the cost norms and pattern of assistance for this sector. It has worked closely with Ministries of New and Renewable Energy, DRDO (Ministry of Defence) and the Department of Industrial Policy & Promotion as well, besides industrial organisations.

I also take this opportunity to share with our readers that the 'core team' of NCCD has been selected. Pawanexh Kohli, who was our Chief Advisor will be the CEO of the organization and responsible for ensuring that the mandate of NCCD is implemented with the support of our partner organisations and members. We have written to all state governments to appoint a nodal officer of cold-chain to ensure smoother consultation with the state governments and Mission Directors. We are also in the process of entering into MoUs with educational and technical institutions with regard to HRD and skill development and with financial institutions to facilitate investments in this sector. You will read more about these initiatives in this, and the subsequent editions of the Newsletter.

I take the opportunity of welcoming Monica, Aman, Angshuman and Vanshaj to Team NCCD, and am confident that Team NCCD will live up to your expectations.



CAPACITY BUILDING PROGRAMS

Pursuant to its mandate to undertake and coordinate the task of Human Resource Development (HRD) and capacity building in cold-chain, NCCD initiated some pioneering training workshops with its participant members. These trainings were identified so as to provide employability skills as well as for institutional capacity building in alignment with upcoming XII plan schemes. These initiatives ran concurrent to NCCD involvement in the extant Skill Upgradation Courses (SUPCO and SUTCO) that National Horticulture Board partners with ICE Centre of Excellence. An initial study of human capacity along with infrastructure connectivity in the North East was earlier held by NCCD's committee on supply chain and logistics. Insights from this report was published in the Citizen's Diary in Meghalaya.

Ripening Chamber Operations



A series of training programs was launched specifically for operations of "Ripening Chambers". The first set of trainings was conducted in three cities of Andhra Pradesh between January and February 2014.

These trainings were triggered after ripening room infrastructure owners expressed demand & concern about their suffering from inefficient operations due to a lack of skilled operators. The training primarily targeted unemployed youth and the curriculum also aimed at creating awareness about safe ripening and promoting entrepreneurship in this sector.

These sessions were publicised by the state government through the Divisional Public Relations Officer (DPRO) and received local media attention. As a result, the response exceeded the initial plan to train 25 students per batch, almost doubling. Bank officers (IOB & Canara Bank) took sessions to explain the loan process for this sector.



The trainings were conducted on-site at participating Ripening facilities. The officers of SHM, NHB, Agriculture University AGNRAU presided over the inaugural training sessions.

Technical Workshop for Nodal officers & members

A series of trainings have been initiated at a learning centre in Chennai, developed by Danfoss (a category-C member of NCCD). This learning centre has functional demonstration cold-room units designed with a combination of automation controls in use in the cold-chain. Each course has attendance from nodal cold-chain officers nominated from States and other members of NCCD.

The curriculum has been devised to give decision makers a technical insight into refrigeration and to explain the differentiating concept of integrated cold-chain in relation to short life perishable products.

After the first three workshops, feedback from attendees will lead to revisions to the curriculum, if any, for further courses. These workshops are for a three-day duration and the first batch completed training on 24-March-2014. The next two batches shall complete by March end. Officers from Karnataka, Gujarat, Kerala, Assam, Chhattisgarh, Punjab, Haryana, Arunachal Pradesh, Meghalaya, Rajasthan, Uttar Pradesh and Andhra Pradesh have reserved participation in the trainings.



State Level Workshops

NCCD held three workshops on cold-chain development in the States of Meghalaya, Arunachal Pradesh and Assam. These workshops were the first ever on the subject of cold-chain in these states. The workshops introduced the concept of cold chains as a supply chain network that can empower producers to link with multiple consumption markets.

THE HINDU

Today's Paper » NATIONAL

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Centre urged to support cold-chain development in Assam

The Assam government has urged the Centre to support the cold-chain development project in Assam for the benefit of farmers and consumers.

Agriculture Minister Nilamani Sen Deka said here on Sunday that during the last decade, the State had witnessed significant growth in the horticultural sector but due to non-existence of cold-chain, the post-harvest loss in the State was to the tune of 40 per cent.

The productivity of total fruits in Assam was estimated to be 12.80 MT per hectare, which is higher than the national average of 11.70 MT/ha during 2010-11.

During 2011-12, the State produced 17.75 lakh fruits and 45.14 lakh MT of vegetables but incurred loss due to lack of cold-chain in the State.

Workshop

A State-level workshop on cold-chain development was organised by the Assam Directorate of Horticulture and Food Processing in collaboration with the National Centre for Cold-Chain Development (NCCD) here.

The workshop was attended among others by Additional Chief Secretary and Agricultural Production Commissioner V.K. Pigeonaria who stressed the low-energy cold-chain in this region. NCCD Chief Advisor P. Kohli and Indian Council of Agricultural Research Zonal Project Director Dr. A.K. Gogoi. — PTI

ARUNACHAL FRONT

The People's Daily

COLD CHAIN DEVELOPMENT WORKSHOP HELD



(APHPMPB) today organized the state's first ever workshop on cold chain development at Hotel Donyi Polo Ashok here. Addressing the workshop, APHPMPB chairman Kipa Nya informed that only 1.3 lakh hectare of the 18 lakh hectare "cultivable and available area" in the state are being used for activities related to agriculture and allied sectors. Arunachal Pradesh is traditionally an organic farming land, and it uses only 3.5 kg of fertilizers per hectare against the national average of 140 kg/hectare. The agriculture and its allied sectors contribute 31.5% to the state's GDP, Nya said. Earlier, horticulture commissioner Hage Kojen said while the state has been witnessing surplus production in the agro-horti sector despite the harsh topography and poor road network it has been facing 50% loss of harvests annually because of the absence of cold storage facilities. "The produce do not reach the markets and the farming community is at the receiving end," he lamented. National Centre for Cold Chain Development (NCCD) chief advisor Pawanesh Kohli in his address said the Northeast region with its fertile soil can become a major supplier of agriculture and horticulture produce to the rest of the country, and to the world, provided cold chain stores are established in the region. The people of Arunachal are producing more than they need for their consumption, and the corollary would be to store and supply to avoid harvest loss, he said. The second aim of the workshop focused on interaction between the state and



More capacity building Plans

NCCD had signed an MoU for technical support and capacity building with Cemafrica in April 2013 when NCCD was invited as the Guest of Honour at the IIR international conference on Cold-chain and Sustainability in Paris. As part of ongoing interactions, and in forwarding the Indo-France Joint Working Group on agriculture, the Govt. of France has expressed agreement to process its intent to co-finance specialised trainings to be organised by NCCD and Cemafrica.



The first of these is planned for shortly and a curriculum has been devised to provide exposure to global best practises, energy management, project auditing and operational efficiencies in harmony

with International ATP rules. Each batch will comprise of both State government officers (nodal cold-chain officers) and individuals nominated by the Category-C members of NCCD.

The National Productivity Council (NPC-MoCI) invited technical support from NCCD for an international workshop with Asian Productivity Organisation (APO) from 24-28th of March 2014. This milestone event has participants from 15 nations with the major objective to share knowledge and experience of new technologies and best practices in cold chain management and to formulate action plans for development and promotion of cold chain systems in the respective countries. From India, six officers from different States including Nodal Cold-chain Officers shall participate. NCCD shall also present the keynote address at this event and represent India's development in the technical session.

Other Initiatives

NCCD participated in the culminating workshop of a year long e-learning course on post-harvest technology, jointly conducted by the Post Harvest Education Foundation of Oregon and NCCD member Amity University for candidates from Pakistan, Bangladesh, Sri Lanka, Iran Nepal and India.

NCCD has also been interacting with the wider stakeholder community in technical workshops held by BIMTech, ISHRAE, Amity University and Industry associations. NCCD also held meetings with post-harvest experts from the Collaborative Research Support Program of University of California Davis.

AWARENESS PROGRAMS & CONFERENCES



From its first road map conclave through to various stakeholder interactions, NCCD has brought forth the cold-chain operator, investor and beneficiaries to express and share opinions. Besides organising its own conclaves, NCCD has supported other organisers as part of its awareness program. This included the first ever conclave on refrigerated transport, a conference on cold-chain financing and other interactions with various international delegations.

Conclave on Refrigerated Transport

The cold chain sector is fast growing and key industries including fruits and vegetables, meat fish poultry, dairy products, confectionery and pharmaceuticals among others are critically dependent on it. However, the essential link between source and markets is refrigerated transport – this important cold-chain linkage has not developed at the same pace as the cold storage sector, thereby causing a break in the integrated activity chain. Such anomalies negatively impact the total value proposition and disallows holistic development of the cold supply chain.

The conclave on Refrigerated Transport by NCCD, focussed on bottlenecks faced by the refrigerated distribution sector and resulted in a white paper with varied recommendations. The participants in this workshop included the Joint Secretaries from Ministry of Agriculture, Ministry of Food Processing, Ministry of Roadways and Transport, and notable industry leaders, retailers, investors and operators.



Seminars on Cold-chain & Agri-Logistics

NCCD partnered a conference on Cold-chain Financing with PHD Chamber to address stakeholder concerns. The conference was well-attended and myriad questions on viability and cash flows, bankable and profitable models and interest rates were debated. To boost private investors' confidence, new and innovative structures of financing were recommended. The need for institutional changes in order to facilitate cold chain financing were expressed, and a list of recommendations have been published by PHD Chamber.



NCCD addressed, sponsored and co-hosted various other conferences as part of its awareness drive on cold-chain development. These conferences, over the previous year, were both at domestic and international level. Organisers included ASSOCHAM, PHDCCI, WDRA, FICCI, CII, ICC and others.

- International Horti Congress
- ACRECONF on supply chains
- AIFPA Technology upgradation and modernisation of food processing.
- IACC Best practises Food processing
- Metropolitan Food Security
- IIR Sustainability and cold chain
- WDRA Warehousing & Cold-chain.
- Thaifex Cold-chain World.
- Agritech Farm to Fork seminar
- Global Agriculture Summit
- ICE Cold-chain Seminar
- Hortiexpo International Conference
- CII Building Warehouse Competiveness
- Canada-India collaboration in agri-foods
- ASSOCHAM AgriBusiness Summit.
- CII Managing supply chain disruptions and uncertainties.
- Stakeholders' Consultation of PPP Cold chain projects under viability gap funding (VGF)
- NISPANA Cold Chain Pharmaceuticals
- BIMTech Supply chain and cold-chain
- ISHRAE Refcon Seminar
- ICC Supply chain and logistics summit
- FICCI Africa Asia Agri-Business Summit
- Krishi Vasant Farmers Conference

NCCD along with its industry members were invited to provide knowledge support to a special workshop for NABARD's senior executive team on funding of cold-chain projects. This initiative by NABARD was in advance of implementing direct financing to cold-chain projects under the provisions of the RIDF window. In this 5 day workshop, Chief Advisor and various NCCD members, addressed the bank's team to present an understanding of business models and associated infrastructure, across storage, transportation and for originating facilities at farm-gate.



ADVISORY BODY

NCCD has been providing knowledge support on cold-chain & agri-logistics matters to the Ministry of Agriculture. This encompassed providing inputs for the XII plan guidelines, on various studies and proposals from states and other agencies, vetting of external consultants' reports, for appraising and inspecting infrastructure projects and technology assessment.



NCCD contributed to preliminary discussions between FHEL and DEA for developing appropriate PPP models for cold-chain among others. During its State workshops, NCCD visited aquaculture projects & provided specific advise on fish ponds in the North-east as well as options for piggeries and dairy products. NCCD also joined appraisal of a modernisation project on the request of NHB.

On an international level, as part of the Joint Working Groups on agriculture with France and Netherlands, NCCD is participating as a national level agency with reciprocal agencies. For the MIDH, team NCCD is undertaking specific capacity building & awareness initiatives.

MNRE, DRDO, DIPP

NCCD is honoured to anchor a talk on Alternate Energy applications in cold-chain at MNRE. This address was exclusively for the benefit of Group heads, senior officers and scientists, with approximately 30 officers attending under the Chairmanship of Secretary MNRE. The related XII Plan interventions for cold-chain under MIDH were also discussed. As follow-up, NCCD was also invited for a visit to the Solar Energy Centre and some innovative, pathbreaking applications for cold-chain were witnessed at this institute.



NCCD was also invited to the Defence Research & Development Organisation (DRDO) to share with their senior officers various innovations in efficient vaccine carriage and storage and discuss other thermal management applications in the defence sector. Further interactions have ensued for knowledge support between NCCD and senior officers of the Armed Forces Medical Corps.

Department of Industrial Policy & Promotion invited NCCD to address 5 Investment Round Tables as part of commemorative events to mark 20 years of India-ASEAN economic engagement and 10 years of summit-level dialogue. These IRTs were intended to showcase the investment potential in India, and advise the business community in the countries visited on investor-friendly policies for cold chain enacted by the Government of India.

Bee Cool



NCCD is proud to be given opportunity to provide technical support to National Bee Board (NBB) for the development of an innovative Bee Migration Unit (BMU). This development will lead to a specialised temperature controlled vehicle that will manage an internal environment at $\sim 14^{\circ}\text{C}$ providing a suitable mode for long distance migration of bees. This transport mode will help in offsetting insect demise during migration due to inclement ambient. The BMU is experimental and the first of its type.

The project involves low cost refurbishment of an existing covered vehicle by cladding it with insulating material, deploying a mild chill cooling machine and the provision of a sliding mechanism for loading and off-loading of beehive boxes. The vehicle can also be used to store and transport raw honey after collection. The experiment will allow for the assessment of alternate apiary handling options in future.

Industry Support

Simplicool an Ohio based USA company approached NCCD in April 2013 with the concept of a solar photovoltaic application for cold rooms. The organisation was introduced to NCCD member company Lloyd Insulation and within a few months, the first test runs were completed early this year. This B2B Indo-US collaboration has resulted in an off-grid cold room which is coming into use at various locations in the country.



Private industry, members of NCCD, also approached seeking redressal on policy interpretations on pending concerns on guidelines and extant standards with government bodies. On the basis of express advice provided by NCCD, the doubts were cleared for matters to progress to a logical and satisfactory conclusion.

One of the first industry wide interactions recommended by NCCD, was a first-hand touch point survey of existing cold storage capacity created in the country. The Ministry of Agriculture recognised the importance of initiating this first ever baseline survey and the cold storage industry buttressed this initiative by wilfully participating. The support extended by the industry to this survey, conducted under the aegis of National Horticulture Board, is heartily acknowledged in appreciation by team NCCD.

Who is NCCD ?

NCCD is an autonomous body set up by the Government of India with the aim to facilitate cold chain development across all user segments through policy intervention, capacity building and standardisation. NCCD has participation from private industry, policy makers, knowledge partners and other government agencies. Through their participation, various stakeholders of the cold-chain sector form an integral core resource for NCCD. The Secretary (A&C) is the Chairman of its Governing Council. The functional arm of NCCD is based in Nirman Bhawan, Delhi.

NCCD officers

CEO & Chief Advisor



Pawanexh Kohli

In his professional life of over 30 years, he has functioned across the globe, in every continent, of which for 15 years he served with the world's largest supply chain for perishables, "Dole Food Company". In India since

2007, he is known to have been the innovating force behind passively cooled street vending carts, was Chief of Cold-chain in Gati Ltd and Group Head of Arshiya Intl Ltd and the specialist advisor to IL&FS(CDI) on Agri-business Infrastructure and Logistics. He is a speaker at global conferences and in 2010 was lauded by the industry as the cold-chain personality of India. In 2012 he was also awarded for Exemplary Thought Leadership and in 2014 the World Brand Congress listed him among the most talented professionals in India who focus on rural marketing. With decades of hands on experience in cold logistics, he has been core to incubating NCCD into a think tank of reckoning on cold-chain development.



Head HRD & Public Relations

Monica Gupta

A cost accountant by training, she has around eighteen years of work experience in various industries and roles. She has served as a management consultant with micro small and medium enterprises (SME). She has also been associated with Business Schools as a visiting faculty for over seven years. Passionate about human resource development, she was involved with various capacity building activities with SMEs. She will be managing NCCD's HRD programs and organise its various public interfaces and initiatives.



Accounts Officer

Neelam Tandon

Having retired from Ministry of Agriculture, her 38 years of experience in accounting matters have helped NCCD to implement a robust file keeping

and monitoring system in its formative years. She is ever willing to contribute and to learn and is a senior & motivating force at NCCD.

Executive Managers

Aman Bhatnagar

A dynamic and focussed individual, he comes with about 7 years professional experience in Planning, Engineering and Designing for Captive Cogeneration Power Plants. He last worked for DLF Utilities Ltd., as Senior Engineer. A qualified M.Tech (Energy & environmental management) from IIT (Delhi) and education in management (PGDBM from IMT), he will provide necessary inputs across various functions and provision specialised inputs in optimising energy utility in the cold chain.



Angshuman Siddhanta

He has been working with NCCD since 2012 and was amongst the first team members to be inducted. With 3 years of work experience, he brings a persevering attitude and will undertake research and coordination of activities by NCCD. He completed his BBA from Western Michigan University and later majored in Finance from IMD Delhi before completing MBA from MDU Rohtak.



Team NCCD operates on a daily basis with Ministry of Agriculture and finds strong, ardent support and close guidance from officers of all the Departments.

Nodal Cold-chain Officers from the States comprise the extended & integral resource base of NCCD.

NCCD shall soon be further extending its team by inducting a senior advisor for refrigeration and a manager with hands on project expertise in solar installations.



NCCD - AIMS & OBJECTIVES

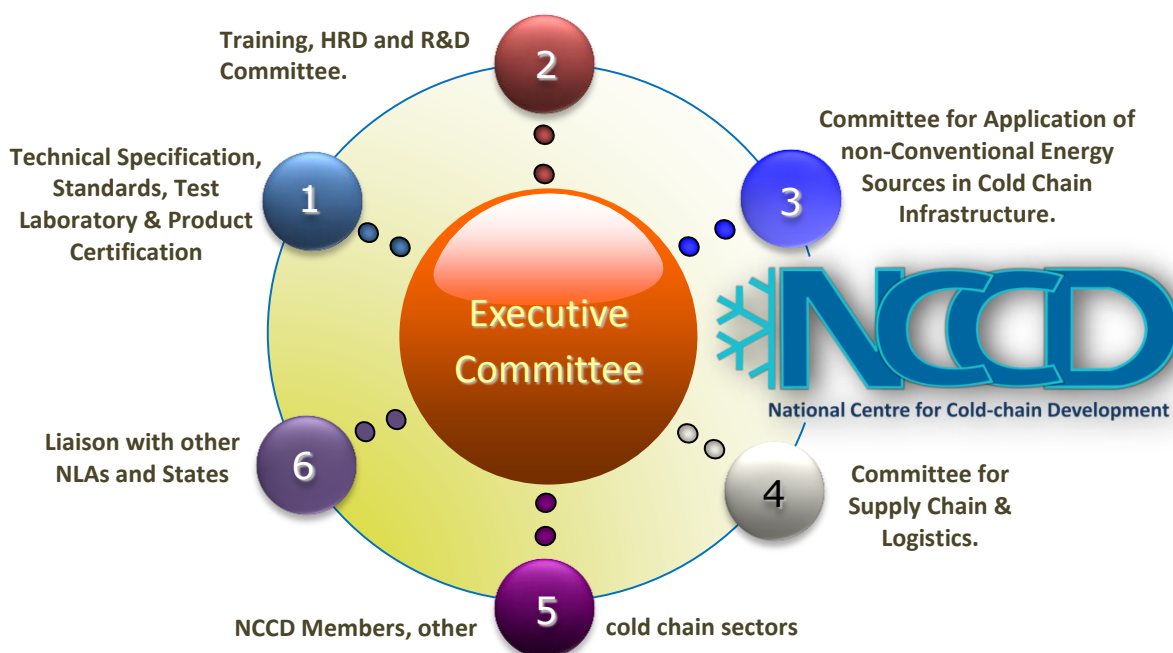
- ❖ To recommend standards and protocols for cold-chain infrastructure/building including post-harvest management so as to harmonize with international standards and best practices and suggest mechanism for benchmarking and certification of infrastructure /building, process and services provided by cold-chain industry.
- ❖ To suggest indicative guidelines for preparation of project reports for potential investors/entrepreneurs.
- ❖ To assess and develop appropriate IT-based management information system for cold-chain infrastructure.
- ❖ To undertake and coordinate Research and Development (R&D) work required for development of cold-chain industry in consultation with stakeholders.
- ❖ To undertake and coordinate the task of Human Resource Development (HRD) and capacity building. It may also conduct in-house training, short-term/long courses relevant for cold-chain development.
- ❖ To launch publicity campaign to educate the stakeholders including awareness building about the benefits of integrated cold-chain.
- ❖ To recommend appropriate policy framework relating to development of cold-chain.
- ❖ To facilitate and foster the development of multi- modal transportation facilities for perishable agricultural, horticultural and allied commodities and establishment of a National Green Grid for Perishable Commodities.

NCCD - PUBLIC & PRIVATE PARTICIPATION:

- I. **Category G** – Groups (Grower Associations, Cooperatives, FPOs, NPOs, student groups, etc.)
- II. **Category C** – Companies (Business, Investment and Research organisations).
- III. **Category I** – Industry Bodies (Associations/Chambers), PSUs/Apex Institutes.
- IV. **Category P** – Patron members of NCCD.
- V. **Category R** – Resource Institutes, Educational Centres of Excellence, Regulatory Authorities.
- VI. **Category A** – Associate individual Member of NCCD.
- VII. **Category F** – Fellow of NCCD.

To learn more visit www.nccd.gov.in

NCCD – COMMITTEES



Industry, PSUs, Government, Investors, Entrepreneurs, Farming Groups, Associations & Knowledge Houses - all part of this Umbrella Body

NOTES

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National Centre for Cold-chain Development

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Ministry of Agriculture**

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