

2ND POTATO SUMMIT: PROGRAM REPORT



MAY 2025

FOREWORD



The Potato Summit 2025 builds on the strong foundation laid by the inaugural 2024 summit, continuing our commitment to strengthening Nepal's agricultural landscape and advancing the potato sector. As one of the country's most important crops, potatoes play a critical role in supporting food security, improving rural livelihoods, and contributing to Nepal's broader economic development.

Building on the conversations and insights from last year's summit, this year's gathering brings together policymakers, researchers, industry leaders, financial institutions, and farmers. The objective remains clear: to collectively address challenges, explore new opportunities, and promote innovation across potato cultivation, processing, storage, and commercialization.

On behalf of the Nepal-India Chamber of Commerce and Industry (NICCI), I would like to express my sincere appreciation to the Ministry of Agriculture and Livestock Development (MoALD) and the Food and Agriculture Organization (FAO) Nepal for their continued partnership in making this summit possible. I also extend special thanks to the Agricultural Development Bank Limited (ADBL) for its support and to all our valued sponsors and partners whose contributions have brought this initiative to life.

The 2nd Potato Summit is not only a continuation of an important dialogue but also an opportunity to translate ideas into practical actions and policy initiatives. The collaboration among stakeholders represented here will play a key role in shaping a more resilient, productive, and sustainable potato sector in Nepal.

I extend my gratitude to everyone who has contributed to this effort and look forward to the meaningful outcomes that will emerge from this year's summit.

Sunil KC

President

Nepal-India Chamber of Commerce & Industry (NICCI)

PREFACE



The 2nd Potato Summit builds upon the momentum and success of the inaugural Potato Summit 2024, which brought together key stakeholders from across Nepal's potato industry to discuss sustainable farming, market development, value addition, and supportive policy frameworks. The first summit created an important platform for knowledge exchange, innovation, and collaboration, bringing together farmers, entrepreneurs, researchers, policymakers, and industry representatives across borders.

Building on the first summit, the 2nd Potato Summit continues this important dialogue with a renewed commitment to advancing Nepal's potato sector. I thank the Ministry of Agriculture and Livestock Development (MoALD) and the Food and Agriculture Organization (FAO) Nepal for their continued partnership and technical support in organizing this important initiative. My gratitude also goes to the Agricultural Development Bank Limited (ADBL) for its valuable support, and to all our esteemed sponsors and partners whose contributions have made this summit possible.

I would also like to acknowledge the dedicated individuals who made this initiative possible. Special thanks to Dr. Govind Prasad Sharma, Secretary, and Dr. Januka Pandit, Joint Secretary, at MoALD, for their coordination in organizing the summit. I also extend my gratitude to our contributors, including the Embassy of India, Kathmandu, Agricultural Development Bank Limited, Surya Nepal Pvt. Ltd., Nabil Bank Ltd., NMB Bank Ltd., Salt Trading Corporation Ltd. and Sanima Bank Limited.

Special recognition goes to Agro-Entrepreneur, Executive Committee Member as well as Co-Convener of the M/SME Committee at NICCI Mr. Sushama Sharma, Mr. Sunita Nhemhafuki CEO of 3S Foundation, and Mr. Shyam Dhakal, CEO of First Choice Foods Pvt. Ltd. for their technical contributions from conception to execution.

I deeply appreciate the efforts of the NICCI Secretariat and the committed team at FAO Nepal for their contributions to making this summit successful.

We are pleased to present this report documenting the outcomes of the summit, including key insights from panel discussions and concluding sessions. Recognizing the importance of sustained dialogue and collaboration, NICCI remains committed to organizing the Potato Summit annually on May 30. We believe this initiative will continue to serve as a valuable platform for policy dialogue, innovation, and collective action for the growth of Nepal's potato industry.

Keshab Man Singh

Director General

Nepal-India Chamber of Commerce & Industry (NICCI)

ACKNOWLEDGEMENT



The success of the inaugural Potato Summit 2024 was made possible through the collective efforts of numerous individuals and organizations committed to advancing Nepal's potato sector. As we move forward with the 2nd Potato Summit, I would like to once again express my sincere gratitude to all those who continue to support this important initiative.

I extend my deepest appreciation to the Ministry of Agriculture and Livestock Development (MoALD) and FAO Nepal for their continued partnership and invaluable support. My special thanks go to the Agricultural Development Bank Limited (ADBL) for their support, as well as to all our esteemed sponsors and partners for their generous contributions.

A heartfelt thanks to Dr. Govind Prasad Sharma, Secretary and Dr. Januka Pandit, Joint Secretary of MoALD, whose coordination with government bodies and experts has played a crucial role in strengthening the summit. I also acknowledge the professional and dedicated efforts of the NICCI secretariat and the team of FAO/Nepal for making the summit successful and supporting the preparation of this comprehensive report.

My sincere appreciation goes to Mr. Ken Shimizu, FAO Country Representative for Nepal and Bhutan, and his committed team, as well as to my fellow committee members and the dedicated teams at NICCI for their valuable contributions to planning and organizing this summit. I would also like to extend my gratitude to our contributors, including the Embassy of India, Kathmandu, Agricultural Development Bank Limited, Surya Nepal Pvt. Ltd., Nabil Bank Ltd., NMB Bank Ltd., Salt Trading Corporation Ltd. and Sanima Bank Limited.

I would also like to acknowledge the leadership and continued support of senior government officials, especially Dr. Govinda Prasad Sharma, Secretary and Dr. Januka Pandit, Joint Secretary, both at MoALD, and distinguished guests who have encouraged dialogue and innovation in Nepal's agricultural sector. My gratitude extends to all dignitaries, development partners, experts, presenters, speakers, and stakeholders who have contributed their time and knowledge to strengthen this platform. A special thank you to the farmers and agricultural entrepreneurs from across the country whose practical insights and experiences remain central to these discussions. Their participation ensures that the summit remains grounded in the realities of Nepal's agricultural landscape.

Special recognition goes to Mrs. Sunita Nhemhafuki, CEO of 3S Foundation, and Mr. Shyam Dhakal, CEO of First Choice Pvt. Ltd., for their coordination, active participation, and valuable support in making the event successful.

The success of the first summit reaffirmed our shared commitment to strengthening Nepal's potato sector and moving toward greater self-sufficiency in potato production. As we convene the 2nd Potato Summit, I look forward to continuing our collaboration, innovation, and collective efforts to strengthen Nepal's agricultural sector.

Sushama Sharma

Convener, M/SME Committee

Nepal-India Chamber of Commerce & Industry (NICCI)

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EXECUTIVE SUMMARY

2nd Potato Summit

30TH MAY 2025 | 17TH JESTHA 2081
HOTEL YAK & YETI

Nepal's potato sector represents a high-impact entry point for agricultural modernization, food security enhancement, and import substitution. Despite wide agro-ecological suitability and strong domestic demand, sector performance remains constrained by structural weaknesses in seed systems, low productivity, insufficient post-harvest infrastructure, and fragmented market and financing arrangements. These constraints have resulted in persistent yield gaps relative to regional benchmarks and continued dependence on imports of both ware and processed potatoes.

NICCI had organized its first-ever Potato Summit 2024 in association with the Ministry of Agriculture and Livestock Development (GoN), and the Food and Agriculture Organization (FAO). The Summit was held on World Potato Day, 30th May 2024, and achieved remarkable success. This report presents a policy and reform roadmap grounded in the outcomes of the Second Potato Summit and subsequent technical analysis. It adopts a results-based, system-wide perspective aligned with international best practice in food system transformation. The central policy premise is that productivity-led growth -driven primarily by access to quality seed, adaptive research, mechanization, and effective risk management -- offers the most cost-effective and sustainable pathway to sectoral self-sufficiency and competitiveness.

The Second Potato Summit was organized on 30th May 2025 at Hotel Yak & Yeti, Kathmandu, was a significant continuation of NICCI's annual initiative to advance Nepal's potato sector from "Seed to Market." The event was jointly hosted by the Nepal-India Chamber of Commerce and Industry (NICCI) in association with the Ministry of Agriculture and Livestock Development (MoALD), the Food and Agriculture Organization (FAO), and with the support of the Embassy of India, Kathmandu. It was powered by Agricultural Development Bank.



Honorable Ms. Kusum Devi Thapa, Chairperson of the Agriculture, Cooperatives, and Natural Resources Committee of the Federal Parliament, emphasized the potential of potato processing industries in adding value to the crop and creating employment opportunities. She encouraged investment in processing technologies to diversify potato-based products and increase Nepal's competitiveness in regional markets.

Dr. Govinda Prasad Sharma, Secretary at MoALD, shared that several of the recommendations made during the First Potato Summit in 2024 had been incorporated into government policies, with ongoing efforts to address the remaining issues. He highlighted collaborative work with FAO, particularly the prioritization of highland potato through the Hand-in-Hand Initiative (HiHI), and informed participants about initiatives underway to improve market infrastructure and farmer-to-consumer linkages to ensure better price realization for producers.

FAO's Country Representative for Bhutan and Nepal, Mr. Ken Shimizu, pointed out the urgent need to align production with market demand and consumer preferences. He elaborated on FAO's Hand-in-Hand Initiative, under which highland potato has been designated a priority commodity for investment and spatially targeted interventions. The initiative supports Nepal's goals of enhancing food and nutrition security, sustainability, and rural resilience. Representing the Embassy of India in Kathmandu, Ms. Garima Nautiyal, Second Secretary (Development Partnership and Political), emphasized the importance of international collaboration, especially with India, in the areas of seed quality improvement, disease control, and technology transfer. She reaffirmed India's commitment to supporting Nepal's seed sector through technical cooperation and knowledge exchange.



PROGRAM SCHEDULE

08:30am - 09:00am	Registration & Breakfast	30 min
Opening Session 9.00-10.00 a.m.		
Estimated Time	Activities	Remarks
09:00 am -09:05am	Setting of Guest at Stage	5 min
09:05am – 09:10am	Introduction on the Summit by Emcee	5 min
09.10am –09.20am	Brief welcome of the session by Mrs. Sushama Sharma,	(10 min)
09.20am -09.35am	Current Status of Potato and Potato Seeds in Nepal, Gaps and Way Forward - By Country Representation-Nepal, Speaker, Dr. Januka Pandit, Joint Secretary, MoALD, GoN	(15 min)
Estimated Time	Activities	Remarks
09.35am- 09.45am	Bridging Gaps in Potato Seed Policy Implementation: A Roadmap for High-Quality Potato Seed Access/ Seed Certification & Quality Control BY- Mr. Salikram Guatam, Senior Agronomist, Seed Quality Control Centre, Harihar Bhawan, Lalitpur	(10 min)
09.45am -09.55am	"The Business of Better Seeds: Challenges and Opportunities in Potato Seed Multiplication" BY- Mr. Sashi Adhikari, Seed Multiplier Entrepreneur	(10 min)
09.55am -10.05am	"Scaling Potato Production & Productivity: PMAMP's Role in Transforming Nepal's Potato Value Chain" BY- Mr. Hikmat Kumar Shrestha, Chief, Prime Minister Agriculture Modernization Project, (PMAMP), MoALD	(10 min)
10.05am-10.15am	"From Lab to Field: Scaling Tissue Culture Technology for Quality Potato Seed Production in Nepal" BY- Mr. Santosh Dahal, Director, Ficus Biotech Pvt. Ltd. (Tissue Culture Lab)	(10 min)
10..15am-10.25am	"Research-Led Transformation of Nepal's Potato Sector: Achievements, Gaps, and the Road Ahead" BY: Mr. Yubaraj Bhusal, Project Chief, National Potato Research Program2	(10 min)
10.25am-11.00am	Question –Answer Session	35 min

PROGRAM SCHEDULE

Inaugural Session		
11.00 am- 11.10am	Welcome Remarks by NICCI Vice President Mr. Ravi Kumar Rayavaram	10 min
11.10am-11.20 am	Special Guest, Mrs. Garima Nautiyal, Second Secretary (Development Partnership and Political) Embassy of India, Kathmandu	10 min
11.20am-11.35am	Neighboring Country's Experience (India) By Keynote Speaker Mr. SP Singh, VP - Supply Chain, Technico Agriscience Ltd. (ITC's subsidiary and one of the largest potato seed producers in India)	15 min
11.35am-11.45am	Remarks from Mr. Ken Shimizu, Country Representative of FAO- for Bhutan & Nepal	10 min
11.45am-11.55am	Remarks from Dr. Govind Prasad Sharma, Secretary, (Agriculture) Ministry of Agriculture and Livestock Development (MoALD)	10 min
Estimated Time	Activities 50 minutes	Remarks
11.55am-12.05am	Remarks by, Honorable Ms. Kusum Devi Thapa, Committee Chairperson, Agriculture, Cooperatives and Natural Resources Committee	10 min
12.05am-12.10	Inauguration by Chief Guest Mr. Ram Nath Adhikari, Honorable Minister, Agriculture and Livestock Development (MoALD)	5 min
12.10 -12.20 p.m.	Inaugural Remarks by Chief Guest Mr. Ram Nath Adhikari, Honorable Minister for Agriculture and Livestock Development	10 min
12.20pm -12.30 p.m.	Vote of Thanks by Mrs. Sunita Nhemhaphuki, CEO, 3S Foundation, Knowledge Partner, of the Potato Summit 2025.	10 min

PROGRAM SCHEDULE

12.30 - 1.30 Networking Lunch Break & Showcase

Further Technical Presentations

Technical Session Chair By: Joint Secretary, MoALD

Estimated Time	Activities	Remarks
01.30 pm - 1:40 pm	Voices from the Field: A Farmer's Perspective on Potato Production in Nepal Mr. Prem Lal Chaudhary, Potato Producer	(10 min)
01:40 pm-01:50 pm	"Unlocking the Potential of Cold Storage: Challenges, Opportunities and Way Forward, BY- Mr. Krishna Bhakta Shrestha, President, Cold Storage Association	(10 min)
01:50 pm- 02:00 pm	"Enhancing Potato Value Chain through Targeted Financing from ADBL in Nepal" BY - Ms. Neeku Acharya, Head, Agriculture Credit & Project Management Department Agriculture Development Bank Ltd.	(10 min)
02:00 pm- 02:10 pm	"Driving Productivity Through Mechanization: Opportunities for Mechanization in Potato Farming" BY- Mr. Krishna Sharma, President, Nepal Agricultural Machinery Entrepreneurs' Association NAMEA,	(10 min)
02:10 pm-02:20 pm	"Strengthening the Potato Value Chain at the Grassroots"- Challenges, Opportunities & Way forward BY- Mr. Kishwor Lohani, on behalf of Mayor Mr. Jagat Bahadur Gurung, Belkotgadhi Municipality, Nuwakot	(10 min)
Estimated Time	Activities	Remarks
2:20 pm -2:30 pm	"Challenges and Opportunities in Nepal's Potato Processing Sector" BY- Mr. Shyam Dhakal, Senior Potato Specialist, First Choice Food Pvt. Ltd.; Rupandehi. (Potato Processor Industry)	(10 min)
02:30 pm- 02:40 pm	Potato market Dynamics in Nepal - Challenges, Opportunities and Way Forward on Efficient Supply Chain Management BY- Mr. Prakash Gajurel, General secretary Nepal Krishi Upaj Aalu Payaj aayat Niryat Tath Thok	(10 min)

PROGRAM SCHEDULE

02:30 pm- 02:40 pm	Potato market Dynamics in Nepal - Challenges, Opportunities and Way Forward on Efficient Supply Chain Management BY- Mr. Prakash Gajurel, General secretary Nepal Krishi Upaj Aalu Payaj aayat Niryat Tath Thok	(10 min)
02:40 pm- 02:50 pm	"Promoting Crop Insurance for Risk Reduction in Potato Farming in Partnership with Insurance company" BY – Mr. Susil Dev Subedi, Executive Director Nepal Insurance Authority	(10 min)
02:50 pm-03:00 pm	"Mobilizing Private Bank Investment for a Sustainable and Inclusive Potato Value Chain in Nepal" BY- Mr. Top Prasad Agasti, SME, Department Head, Nabil Bank Ltd.	(10 min)
03:00 pm-3.10 p.m.	"Investing in Scalable Agribusiness Models to Strengthen the Potato Value Chain in Nepal" BY- Nischal Singh Bhandari, Partnerships and Communication Manager, Adhyanta Fund Management Ltd.	(10 min)

Closing Session - 4.00 pm - 4.30 pm

Session Chair: Mr. Prakash Kumar Sanjel, Director General, Department of Agriculture, GoN
Session Chief Guest: Mr. Deepak Kumar Kharal, Secretary (Livestock), MoALD

Estimated Time	Activities	Remarks
04:00 pm- 04:15pm	Hand in Hand Initiative by FAO By-Mr. Deepak Tuladhar, Programme Specialist	
04:15 pm- 04:30 pm	Summit Declaration and Recommendations by: Mrs. Januka Pandit, Joint Secretary, MoALD	
04:30 pm- 04:45pm	Closing Remarks of the Potato Summit By- Mr. Prakash Kumar Sanjel, DG, Department of Agriculture, MoALD	

KEY THEMES

The proceedings were anchored by four primary pillars updated for the 2025 outlook:

- **Seed Value Chain Optimization:** Identifying and developing high-quality, commercially viable seed varieties and utilizing international cooperation (notably with India) for disease management.
- **Market Development & Infrastructure:** Improving market linkages, establishing direct farmer-to-consumer connections, and expanding cold storage facilities.
- **Processing & Industrial Opportunities:** Incentivizing investment in processing technologies to diversify potato products and create domestic value-added markets.
- **Private Sector & Financial Integration:** Promoting crop insurance, accessible credit, and mechanization to improve farming efficiency.

The summit featured a diverse range of speakers from government, international organizations, and the private sector who provided directions for the industry.

- Honorable Ram Nath Adhikari (Minister of Agriculture and Livestock Development): Inaugurated the summit and highlighted that Nepal currently operates 16 Potato Zones and 2 Super Zones. He expressed the government's commitment to policy reforms and incentives for investment in processing technologies to meet the high demand from farmers for further zone expansion.
- Honorable Ms. Kusum Devi Thapa (Chairperson of the Agriculture, Cooperatives, and Natural Resources Committee): Emphasized that potato processing is vital for adding value to crops. She encouraged investments in technology to diversify products and expand into both domestic and international markets.
- Dr. Govinda Prasad Sharma (Secretary, MoALD): Reported that the Ministry has already addressed several recommendations from the 1st Potato Summit and is currently working with the FAO to prioritize highland potatoes. He also highlighted efforts to establish direct linkages between farmers and consumers.



- Mr. Ken Shimizu (FAO Country Representative for Bhutan and Nepal): Discussed the Hand-in-Hand Initiative (HiHI), which identifies the Highland Potato as a priority commodity to catalyze investment and support inclusive rural development.
- Ms. Garima Nautiyal (Second Secretary, Embassy of India): reiterated the importance of international cooperation in seed quality and disease management. She reaffirmed India's commitment to providing technical assistance and knowledge sharing to Nepal.
- Mr. SP Singh (Vice President- Supply Chain, Technico Agriscience Ltd.): Served as the keynote speaker, sharing India's 20-year journey in the potato sector. He noted that India has developed 65 potato varieties and transitioned from an importer to an exporter, reaching 37 countries.
- Mr. Ravi Kumar Rayavaram (Vice President, NICCI): Focused on the seed value chain, emphasizing the need for collaborative efforts to ensure farmers have access to high-quality, affordable seeds.
- Mrs. Sunita Nhemphuki (CEO, 3S Foundation): Delivered the vote of thanks, reiterating that private sector engagement is critical for driving innovation and investment in the value chain.



SESSION OVERVIEW



Government Commitment & Infrastructure

Honorable Minister Ram Nath Adhikari inaugurated the summit, highlighting that Nepal currently operates 16 Potato Zones and 2 Super Zones. He noted a high demand for further expansion and committed to policy reforms that incentivize processing technologies. Honorable Ms. Kusum Devi Thapa further emphasized the role of value addition in accessing international markets.

Progress on the 1st Summit Declaration

Dr. Govinda Prasad Sharma, Secretary of MoALD, reported that the Ministry has actively worked on the adaptation of the 1st Potato Summit declaration. Several recommendations have already been addressed, with a current focus on prioritizing highland potatoes in collaboration with the FAO.

International Insights & Cooperation

- FAO (Hand-in-Hand Initiative): Mr. Ken Shimizu highlighted that the Highland Potato has been identified as a priority commodity to catalyze spatially targeted investments for rural development.
- Embassy of India: Ms. Garima Nautiyal emphasized the importance of technical assistance and knowledge sharing in seed quality and disease management.
- Technico Agriscience Ltd.: Keynote speaker Mr. SP Singh shared India's success story, noting the development of 65 potato varieties and India's transition from an importer to a major exporter to 37 countries.

Technical Working Sessions

- Grassroots Empowerment: Panelists discussed the role of local governments in community-based initiatives aimed at improving production and marketing at the municipal level.
- Financial Resilience: Experts advocated for crop insurance as a vital risk-reduction strategy to protect farmers from climatic events, pests, and diseases.
- Modernization: Discussions focused on the need for accessible credit for modern farming equipment, storage facilities, and scalable agribusiness models.

Presentation 1: Current Status, Gaps, and Way Forward

Presented by: Dr. Januka Pandit, Joint Secretary and Spokesperson, Ministry of Agriculture and Livestock Development, entailing declarations and recommendations that were drawn from the summit.

Overview: D. Januka Pandit delivered the summit's foundational presentation, providing a detailed statistical and analysis of Nepal's potato sector. Her presentation framed the core challenges and outlined a clear, data-driven path toward national self-sufficiency.

- **National Significance and Current Status:** Ms. Pandit began by contextualizing the potato's immense importance to Nepal's agricultural economy and food security. Globally, Nepal holds a significant position, ranking 7th in total area dedicated to potato cultivation and 3rd in overall production. The crop is a cornerstone of the national food system, contributing a substantial 6.35% to the Agricultural Gross Domestic Product (AGDP). However, a critical challenge lies in its productivity. The national average yield is only 17.04 metric tons per hectare (MT/ha), a figure that pales in comparison to global benchmarks, such as New Zealand's 51 MT/ha, and lags behind neighboring India's 25.7 MT/ha. This productivity gap demonstrates a massive opportunity for growth. Potatoes are cultivated across all of Nepal's diverse agro-ecological zones and seasons, highlighting their adaptability, yet the country remains heavily reliant on imports, which are valued at over 8.23 billion NPR and consist of 96% table potatoes.
 - **The Seed Production Landscape:** The formal seed system is the bedrock of productivity, and Ms. Pandit detailed its current state. The annual national demand for Pre-Basic Seed (PBS)—the high-quality, disease-free starter material produced in labs—is between 0.8 and 1 million plantlets. Current production, handled by eight licensed organizations (two government-run and six private), is approximately 0.8 million plantlets, indicating a slight deficit in the foundational seed stock. There are 21 officially registered and released potato varieties in Nepal, with productivity potentials ranging from a low of 10 MT/ha to a high of 39.4 MT/ha.
- This wide range highlights the genetic potential that is not being fully realized at the farm level. Additionally, a rich diversity of local landraces (like Kathmandu local, Jumli, and Tharu) exists but remains unregistered and outside the formal seed system, representing an untapped genetic resource.
- **Gaps Hindering Progress:** Ms. Pandit identified several interconnected gaps that are severely constraining the sector's potential:
 - **A Fractured Seed System:** The most significant issue is the incomplete formal seed cycle. There is a disconnect in the multiplication process from PBS to Basic Seed and then to Certified Seed, meaning the high quality of lab-grown material is often lost or diluted before it reaches the majority of farmers. Furthermore, the parental lines used for producing both PBS and True Potato Seed (TPS) are deteriorating in quality, and the technical protocols for PBS production have not been updated since 1994, hindering innovation.
 - **Limited Varietal Choice:** Farmers have a limited selection of varieties, with a notable lack of options that are tolerant to heat and drought or resistant to major pests and diseases—critical traits for adapting to the increasing challenges of climate change.
 - **Infrastructure Deficit:** A severe shortage of adequate cold storage facilities leads to massive post-harvest losses, forcing farmers to sell their produce at low prices immediately after harvest. The lack of insurance for existing cold storage units adds another layer of financial risk for operators and farmers alike.
 - **Policy and Implementation Issues:** While policies like the Seed Act exist, their implementation, particularly regarding seed certification and quality control, is weak. This allows poor-quality, uncertified seed to dominate the market, trapping farmers in a cycle of low productivity.
 - **Marketing Inefficiencies:** Persistent marketing challenges, including a heavy reliance on middlemen and a lack of branding or Geographical Indication (GI) for unique Nepali potatoes, prevent farmers from capturing a fair share of the value their product generates.

- **A Way Forward to Self-Sufficiency:** Concluding her presentation, Ms. Pandit outlined a clear, two-pronged strategy to achieve national self-sufficiency in potatoes. The country must either increase its national average productivity to 18.30 MT/ha or expand the total cultivation area by 17,898 hectares. She emphasized that the most sustainable and efficient solution is to focus on boosting productivity. This, she argued, is fundamentally dependent on one critical intervention. To achieve this, she proposed a multifaceted approach: aggressively pursue varietal development for climate resilience; fully implement and maintain the formal seed cycle; develop robust, insured cold-storage infrastructure; conserve and use valuable local landraces; and establish strong branding to enhance market value both domestically and internationally.

Presentation 2: Strengthening the Potato Chain at the Grassroots

Presented by: Mr. Kishore Lohani, on behalf of Mayor Jagat Bahadur Gurung, Belkotgadhi Nagarpalika (Case Study: Belkotgadhi Municipality)

Overview: Mr. Kishore Lohani provided a granular, on-the-ground perspective by presenting a detailed case study of Belkotgadhi Municipality in Nuwakot. His presentation shifted the discussion from national statistics to the lived realities of farmers, highlighting the specific, interconnected challenges that stifle local potential and the tangible opportunities for transformative growth.

- **Ground-Level Challenges: A Cycle of Low Profitability**
Mr. Lohani painted a vivid picture of the constraints that trap local farmers in a cycle of low yield and limited income. The primary bottleneck, he explained, is poor access to quality seeds. The formal seed system is largely inaccessible, forcing most farmers to rely on saved potatoes from the previous harvest, which often carry diseases and have low vigor, leading to poor crop performance from the outset. A reliance on traditional farming methods compounds this. Knowledge of modern agronomic practices—such as proper soil health management, integrated pest management, and optimal nutrient application—is limited. This results in inefficient resource use and yields far below the crop's genetic potential.

The problems continue after harvest. A near-total lack of local cold storage infrastructure leads to staggering post-harvest losses. Farmers are forced to sell their produce immediately, creating a market glut that drives down prices. This situation is exploited by a deeply entrenched network of middlemen. Due to weak farmer organizations and a lack of collective bargaining power, individual farmers have little leverage. They are dependent on intermediaries not only for market access but often for credit and inputs, creating a dependency that strips them of profitability and agency. Finally, these challenges are being exacerbated by the growing impacts of climate change, including erratic rainfall and irrigation water scarcity, which add another layer of risk to their operations.

- **Key Opportunities: Tapping into Local Potential**
Despite these significant hurdles, Mr. Lohani argued that Belkotgadhi, and areas like it, possess immense untapped potential. The region has a distinct agro-climatic advantage, with an ideal elevation and climate that are highly suitable for producing high-yield, disease-resistant potato varieties. This unique environment also allows for off-season cultivation, which can fetch premium market prices, and is well-suited for organic production. This natural advantage has already led to a rising local market for quality seed potatoes. There is growing demand from surrounding areas for Belkotgadhi-grown seeds, creating a clear and immediate opportunity for investment in commercial seed production.

There is a clear readiness for agri-tech adoption and innovation. Local farmers have observed that even locally-selected seeds show better resilience, signaling an openness to improved varieties and technologies. Integrating modern, scalable agri-tech for production and post-harvest management could rapidly increase efficiency and yields. The most critical opportunity, however, lies in cultivating a platform for public-private collaboration. By transforming these grassroots challenges into investment-ready opportunities, Belkotgadhi could serve as a national model for building a resilient and prosperous potato value chain from the ground up.

Presentation 3: Challenges and Opportunities in Potato Seed Multiplication

Presented by: Mr. Sashi Adhikari, Proprietor, Khadya Tatha Biu-Aalu Tissue Culture Prayogsala

Overview: Mr. Sashi Adhikari presented a critical analysis of the commercial seed production business, exposing the deep-rooted systemic inefficiencies and market failures that directly undermine Nepal's potato productivity.

- Pervasive Market Dysfunction:** Mr. Adhikari began by diagnosing the chaotic state of the seed market. A primary issue is the unhealthy competition driven by a lack of quality standards. Low-cost, uncertified seeds inundate the market, resulting in a price-driven competition that compromises quality. This makes it very difficult to distinguish between ware potatoes and seed potatoes. Lacking access to, or unable to afford, certified seeds, they often plant leftover sprouted potatoes from their stock. This practice, while seemingly economical, perpetuates a cycle of disease transmission and genetic degradation, ensuring low yields and poor crop quality year after year. The informal market, governed by traders with no accountability for seed quality, thrives in this environment, further marginalizing the producers of genuine, high-quality seed.
- Systemic Inefficiencies:** The problem extends beyond market behavior to the very structure of the seed supply chain. Mr. Adhikari highlighted a severe lack of area-specific specialization. Systematic efforts to identify the best potato varieties for Nepal's diverse agro-climatic regions—the Terai, the mid-hills, and the Himalayas—are scarce. High-demand, high-performance varieties such as Janakdev, Cardinal, and MS 42.3 are consistently in short supply in the regions where they would perform best. Conversely, less popular or less suitable varieties, such as IPY8, Khumal Laxmi, and Khumal Seto, are often overproduced by government farms and private laboratories, leading to waste and farmer dissatisfaction. Both private traders and, at times, government officials distribute seeds without proper planning, certification, or traceability.
- Core Issues Crippling the Seed Sector:** At the heart of these challenges are fundamental flaws in the seed production model itself. The formal seed cycle is poorly maintained. The crucial, multi-generational process—from lab-grown Pre-Basic Seed (PBS) to the first, second, and third generations of field-multiplied seeds—is frequently broken. This means the genetic purity and health of the initial high-quality stock are quickly compromised. This broken system places an immense burden on small farmers, who struggle to generate a sustainable income from legitimate seed production. They face high upfront costs, require specialized technical knowledge, and cannot compete on price with the informal market. Compounding their financial precarity are the chronic delays in fund release from government agencies. Seed producers who supply government programs often wait months for payment, creating a severe cash flow crisis that prevents them from purchasing inputs for the next season and pushing them toward financial instability. This bureaucratic bottleneck serves as a major disincentive for private investment and participation in the formal seed sector.

Presentation 4: Scaling Tissue Culture Technology for Quality Seed Production

Presented by: Santosh Dahal, Director, Ficus Biotech Pvt. Ltd. (Tissue Culture Lab)

Overview: Mr. Santosh Dahal of Ficus Biotech provided a crucial technical deep-dive into the very foundation of the formal seed system: the production of Pre-Basic Seed (PBS) through tissue culture.

- Intensive Production Hurdles:** Mr. Dahal began by demystifying the PBS production process, emphasizing its complexity and the significant time investment required. The entire cycle, from initiating a culture in the lab to having a field-ready seed tuber, is a lengthy 15- to 18-month journey. This protracted timeline comprises 5-6 months of rapid multiplication in a sterile laboratory environment, 2-3 months of hardening in a greenhouse, 2-3 months of dormancy induction in cold storage, and an additional 5-6 months of waiting due to seasonal mismatches. This long lead time makes it extremely challenging for producers to respond quickly to market demands.

Beyond the timeline, scaling is severely hampered by several technical and logistical constraints:

- **Lack of Quality Mother Cultures:** The genetic and phytosanitary quality of the entire seed stock depends on the initial plant material, or "mother culture." Mr. Dahal noted a critical shortage of high-quality, disease-indexed mother cultures for the diverse range of potato varieties demanded by farmers. This forces labs to work with suboptimal material, compromising the quality of the final product from day one.
- **Inadequate Cold Storage:** The delicate, lab-grown plantlets and mini-tubers require highly specific cold storage conditions to maintain viability and manage dormancy. Standard cold storage units, designed for ware potatoes, lack the precise temperature and humidity controls needed. This leads to high mortality rates for the valuable PBS, representing a significant financial loss and a major bottleneck in the supply chain.
- **Non-Standardized Protocols:** A critical issue across the industry is the variance in production protocols. Each PBS producer uses slightly different greenhouse infrastructures, soil sterilization methods, water filtration systems, and operational practices. This lack of a standardized, scientifically validated protocol results in inconsistent PBS quality, making it impossible to guarantee performance for farmers and undermining trust in the formal seed system.
- **Proposed Solution: A Shift to Soil-Less Production To address these deeply entrenched problems, Mr. Dahal strongly advocated for a paradigm shift in production technology: the adoption of soil-less production techniques, such as hydroponics or aeroponics, for PBS multiplication. This modern approach, offers a powerful solution to the core challenges of quality, efficiency, and scalability.**
- **Enhanced Efficiency and Speed:** Hydroponic systems allow for much higher planting densities and provide plants with a precisely controlled nutrient solution, leading to faster growth rates and higher yields of mini-tubers per plant. This could significantly shorten the lengthy 15-18 month production cycle.
- **Disease and Pest Elimination:** By removing soil from the equation, producers can eliminate the risk of soil-borne diseases and pests, which are a primary cause of seed degeneration in traditional systems.
- **Superior Quality and Uniformity:** The controlled environment of a soil-less system ensures that every plant receives the same amount of water, nutrients, and light. This results in a highly uniform PBS crop with consistent size, vigor, and performance potential, directly addressing the issue of non-standardized quality.
- **Resource Conservation:** These systems are typically closed-loop, recycling water and nutrients, which makes them far more water-efficient and environmentally sustainable than conventional methods.

Presentation 5: Establishing a Sustainable Seed Potato Production Cycle

Presented by: Mr. Shyam Dhakal, Director and Potato Agronomist, First Choice Foods Pvt. Ltd.

Overview: Mr. Shyam Dhakal of First Choice Foods Pvt. Ltd. presented a bold and actionable blueprint for overhauling Nepal's entire potato seed supply chain. Moving beyond problem diagnosis, his presentation outlined a comprehensive financial and policy framework to build a self-reliant, sustainable seed system.

- **Vision: A Structured Multi-Tiered Production System**
The core of Mr. Dhakal's vision is to completely transition farmers away from the prevalent and damaging practice of using inferior, disease-prone ware potatoes as seed. He proposed a methodical, multi-tiered production system that ensures quality is preserved.

The advantages are manifold:

- a. Pre-Basic Seed (PBS): Produced in high-tech, sterile tissue culture labs.
- b. Basic Seed I & II (BS-I, BS-II): The first generations multiplied from PBS under controlled field or greenhouse conditions by specialized growers.
- c. Certified Seed I & II (C-I, C-II): Further multiplication by trained and registered seed growers, subject to rigorous inspection and quality certification by the SQCC.
- d. Improved Seed: The final, high-quality product that reaches the commercial potato farmer, guaranteeing high germination rates, genetic purity, and freedom from major seed-borne diseases. This cascade model is designed to rapidly scale up the volume of high-quality seed while maintaining its integrity at each step, forming the foundation of a modern potato industry.

Financial Strategy: A Targeted NPR 4.46 Billion Investment
To operationalize this ambitious vision, Mr. Dhakal proposed a substantial but carefully allocated budget of NPR 4.46 Billion.

- **A Foundational 50% Subsidy for Pre-Basic Seed:** Recognizing the high capital and operational costs, technical expertise, and critical national importance of PBS, the model includes a direct 50% subsidy for its production. This is intended to de-risk investment for private and public tissue culture labs and ensure a stable, affordable supply of the foundational starter material.
- **Incentivizing the Chain with Soft Loans:** For all subsequent stages of seed multiplication (BS-I down to Improved Seed), the framework proposes a robust soft loan program with accessible interest rates of 0-2% for a six-year term. These loans are specifically designed to cover the full spectrum of operational costs incurred by seed growers, including the initial purchase of higher-generation seed, transportation, proper curing, and, crucially, climate-controlled storage. By providing accessible, low-cost capital, this strategy aims to remove the financial barriers that currently prevent thousands of farmers and local cooperatives from participating in the formal seed multiplication business.

Policy Recommendations: Creating a Functional and Enabling Environment Mr. Dhakal stressed that financial investment alone is insufficient. It must be paired with decisive and supportive policy reforms to create a functional, transparent, and trustworthy market:

- **Revise Public Procurement Laws (Kharid Niyamawali):** Current procurement regulations are often cumbersome and slow, hindering the government's ability to procure quality seeds from certified private producers in a timely and efficient manner. Revisions are needed to create a more agile and quality-focused procurement system.
- **Enforce a National Digital Seed Booking System:** To solve the chronic issue of supply-demand mismatch, a transparent, national digital platform for booking seeds should be implemented. This would allow for accurate, real-time demand forecasting and ensure that the right varieties in the right quantities reach the right regions at the optimal planting time.
- **Mandatory Registration with the Seed Quality Control Centre (SQCC):** To build trust and enforce quality standards, all commercial seed producers, cooperatives, and companies must be registered with the SQCC. This creates a national system of accountability and traceability, guaranteeing the quality of certified seed and protecting farmers from substandard products.

Expected Outcomes: A Quantifiable Return on Investment
The proposed framework is projected to deliver significant and measurable results, transforming Nepal's potato economy:

- **Increased Adoption:** Achieve 80% improved seed usage in targeted districts and 25% nationwide.
- **Massive Yield Increase:** A projected 40–50% increase in national potato yields.
- **Import Substitution:** A dramatic reduction in imported ware and processed potatoes by 80-100%, leading to an estimated annual saving of NPR 12 Billion for the national economy.

Presentation 6: Research-Led Transformation of Nepal's Potato Sector

Presented by: Mr. Yubraj Bhusal, Project Chief, National Potato Research Program, Nepal Agricultural Research Council (NARC)

Overview: Mr. Yubraj Bhusal, representing the Nepal Agricultural Research Council (NARC), provided a comprehensive overview of the critical role of scientific research in the potato sector. He detailed NARC's significant historical contributions, candidly assessed the critical research gaps that are currently impeding progress, and outlined a forward-looking "road ahead" to drive the next phase of growth and innovation.

- **Achievements: The Foundation of Modern Potato Farming** Mr. Bhusal began by highlighting NARC's decades-long commitment to potato research, which has been instrumental in modernizing the sector. The council's most significant achievement has been in varietal development. Through systematic breeding and selection, NARC has officially released 13 high-performing potato varieties and registered an additional 5, each tailored with specific desirable traits such as high yield, disease resistance, and suitability for different agro-ecological zones. The tangible impact of this work is profound: today, these improved varieties cover approximately 51% of Nepal's total potato cultivation area. This widespread adoption is a direct testament to NARC's success in providing farmers with genetically superior planting materials that form the very foundation of increased productivity. These varieties are the primary reason Nepal has seen any yield growth over the past decades.

Research Gaps: The Next Frontier of Challenges Despite these successes, Mr. Bhusal pointed out that the research landscape must evolve to meet new and pressing challenges. He identified several urgent research gaps:

- **Integrated Crop Management:** There is a pressing need for more advanced research in soil and water management. This includes developing and promoting location-specific techniques for soil moisture conservation, such as zero tillage and mulching, which are critical for adapting to erratic rainfall patterns.
- **Climate-Resilient Breeding:** The breeding program must now prioritize the development of climate-resilient varieties. This means focusing on traits like heat and drought tolerance, resistance to emerging pests and diseases, and, crucially, shorter maturity cycles (70-90 days). Early-maturing varieties would allow farmers to fit potatoes into tighter cropping windows and avoid the most extreme weather events. Longer tuber dormancy is another key trait needed to improve storability and reduce post-harvest losses.
- **Value Addition and Diversification:** To increase profitability and create new market opportunities, research into product diversification is essential. This involves identifying varieties best suited for processing and developing low-cost technologies for creating value-added products.
- **Embracing Biotechnology:** To accelerate the breeding process, Mr. Bhusal emphasized the urgent need to integrate modern biotechnological tools. Conventional breeding is slow and laborious. Techniques like molecular characterization and DNA fingerprinting can help protect intellectual property and ensure varietal purity. Advanced methods such as mutation breeding and genetic transformation can introduce novel traits with a speed and precision that is impossible to achieve through traditional methods alone.
- **The Road Ahead: A Strategy for Future Innovation** Looking forward, Mr. Bhusal outlined NARC's priorities. A primary focus will be on developing low-cost technologies for the rapid production of quality planting materials, bridging the gap between high-tech labs and community-level seed producers. This involves refining tissue culture-based methods and promoting decentralized, low-cost seed multiplication models. Success, he noted, will depend on the enthusiastic involvement of cooperatives, communities, and the private sector in both producing and distributing these improved seeds and technologies. The ultimate goal is a continuous cycle of innovation where NARC collects, characterizes, and conserves Nepal's rich potato genetic diversity (germplasm).

Presentation 7: Driving Productivity through Mechanization

Presented by: Mr. Krishna Sharma, President, Nepal Agricultural Machinery Entrepreneurs' Association (NAMEA)

Overview: Mr. Krishna Sharma, President of NAMEA, delivered a compelling presentation that drew a direct and undeniable link between Nepal's stagnating potato productivity and its extremely low level of farm mechanization. He argued that mechanization is not a luxury but a fundamental necessity for cost reduction, efficiency gains, and the overall commercialization of the potato sector.

- **The Stark Productivity Gap and Labor Crisis:** Mr. Sharma began by presenting a stark comparison of yields, which immediately highlighted the core problem. Nepal's national average yield of 17.11 MT/ha is dwarfed by those of highly mechanized nations such as the USA (51.45 MT/ha) and the Netherlands (41.79 MT/ha). Perhaps more tellingly, it also lags significantly behind regional peers like India (25.7 MT/ha) and Pakistan (24.4 MT/ha), countries with more comparable farming structures. Mr. Sharma attributed this gap directly to Nepal's overwhelming dependency on manual labor for almost all farming operations, from planting and weeding to harvesting and grading. This reliance is becoming increasingly unsustainable due to seasonal labor shortages, driven by youth migration, which increases production costs and delays farm operations, further suppressing yields. The massive trade imbalance, with imports of fresh and processed potatoes far exceeding exports, is a direct consequence of this inefficiency.
- **Key Challenges Hindering Mechanization:**
 - **Small and Fragmented Landholdings:** Nepal's geography, particularly in the hills, is characterized by small, terraced plots. This makes the operation of large, conventional machinery inefficient and often impossible. This structural issue is a primary deterrent to the adoption of machinery.
 - **High Upfront Cost of Machinery:** Agricultural machinery represents a significant capital investment that is far beyond the reach of most smallholder farmers
 - **Lack of Skilled Human Resources:** The problem extends beyond the machinery itself. There is a severe shortage of skilled operators who can handle modern farm equipment correctly and safely. Furthermore, the rural ecosystem lacks trained technicians and a reliable supply of spare parts, meaning that when a machine breaks down, repair and maintenance services are inadequate and costly, increasing the risk for farmers.
- **Strengthen Policy Support:** The government must create a more enabling policy environment. This includes providing targeted subsidies and tax incentives to make machinery more affordable, and actively promoting the establishment of Custom Hiring Centers (CHCs).
- **Improve Access to Finance:** Financial institutions need to work in tandem with policy. This requires developing tailored loan products specifically for agricultural machinery, with flexible repayment schedules that align with cropping cycles.
- **Promote Localized and Terrain-Suitable Machinery:** The focus should not be on simply importing large-scale machines. Instead, a concerted effort is needed to identify, adapt, and promote machinery that is appropriate for Nepal's diverse and challenging terrain, particularly smaller, more versatile machines for the hills.
- **Build a Skilled Ecosystem:** A massive capacity-building effort is required. This involves establishing training programs for farmers on the proper operation of machinery, as well as developing a network of skilled local mechanics and service providers to ensure long-term sustainability.
- **Enhance Post-Harvest Mechanization:** The focus must extend beyond the field. Investment is also needed in mechanized sorting, grading, and packing equipment.

The Way Forward: A Push for Mechanization Mr. Sharma concluded by outlining a clear path forward to overcome these barriers and unlock the productivity gains that mechanization offers:

Presentation 8: Enhancing the Value Chain through Targeted Financing from ADBL

Presented by: Ms. Neeku Acharya, Department Head, Agriculture Credit & Project Management Department, Agricultural Development Bank Ltd. (ADBL)

Overview: Ms. Neeku Acharya of the Agricultural Development Bank Ltd. (ADBL) provided the perspective of Nepal's leading state-owned agricultural financial institution. Her presentation detailed ADBL's approach to financing the potato sector and conducted a candid SWOT analysis of the industry from a lender's perspective.

A Banker's SWOT Analysis of the Potato Sector: Ms. Acharya framed the discussion with a classic SWOT analysis, offering insights into how a major lender perceives the risks and opportunities:

- **Strengths:** Nepal's primary strengths are its diverse agro-climatic zones, which allow for year-round cultivation, and a consistently high and growing domestic demand for potatoes, ensuring a ready market. The active involvement of cooperatives and farmer groups provides a structured channel for the delivery of credit and extension services.
- **Weaknesses:** From a financial perspective, the weaknesses are significant. Subsistence farming dominates the sector, with very low levels of commercialization. There is a critical lack of post-harvest infrastructure, particularly cold storage, resulting in high price volatility and repayment risk. A weak and informal seed supply system leads farmers to invest in low-quality inputs, resulting in poor yields and a higher likelihood of loan default.
- **Opportunities:** The opportunities for growth and investment are immense. There is a massive, untapped market for import substitution. Developing and promoting high-quality seed production is a prime area for investment.
- **Threats:** The primary threats include the impacts of climate change, such as extreme weather and the introduction of new pests, which can devastate crops. The unpredictable and often distorted market, heavily influenced by cheap imports from India, creates price instability.

ADBL's Financing Interventions and Strategy: Based on this analysis, Ms. Acharya detailed ADBL's financing focus. The bank is committed to moving beyond simple crop loans to finance the entire value chain. Key areas of intervention include:

- **Technology and Mechanization:** Providing targeted credit for farmers and service providers to purchase modern machinery and adopt improved technologies.
- **Infrastructure Development:** A major focus is on financing the construction and upgrading of cold storage facilities, warehouses, and collection centers to reduce post-harvest losses and empower farmers to manage their sales more effectively.
- **Working Capital and Production Loans:** Continuing to provide essential seasonal credit for inputs and labor, with a growing emphasis on linking these loans to the use of certified seeds and good agricultural practices.
- **Policy Interventions and Tailored Financial Products:** Ms. Acharya emphasized that ADBL cannot work in a vacuum. She called for key policy interventions to create a more secure lending environment, most notably the development of clear guidelines for Warehouse Receipt Financing. This system would allow farmers to store their produce in a certified warehouse and use the receipt as collateral for a loan, enabling them to avoid distress sales after harvest.

In parallel, ADBL is actively designing a new suite of tailored loan products to meet the specific needs of the potato value chain. These include:

- Specialized loans for certified seed producers to cover the high upfront costs of clean seed stock and specialized equipment.
- Flexible SME loans for processors and other value chain actors.
- Seasonal credit products with repayment schedules that match the crop's cash flow cycle. A crucial part of this strategy is to facilitate crop insurance and integrate it into the loan process.

Presentation 9: Mobilizing Private Bank Investment

Presented by: Mr. Top Prasad Agasti, SME, Department Head, Nabil Bank Ltd.

Overview: Mr. Top Prasad Agasti from Nabil Bank, one of Nepal's leading private commercial banks, presented a compelling case for the private sector's critical role in financing the agricultural transformation. He articulated why banks are essential catalysts for commercialization and identified the most "bankable" areas within the potato value chain.

- **Why Private Banks Matter in Agricultural Transformation:** Mr. Agasti began by establishing the foundational role of commercial banks in moving agriculture from a subsistence activity to a modern commercial enterprise. He argued that banks are not just lenders but key development partners. They play a vital role in bridging the agricultural financing gap, providing the capital necessary for farmers and agribusinesses to invest in technology, infrastructure, and scale. By providing capital, banks act as catalysts for commercialization, thereby enabling the adoption of business-oriented practices.

Identifying Bankable Investment Opportunities: Moving from the general to the specific, Mr. Agasti identified several concrete, "bankable" areas within the potato value chain that are ripe for investment from private banks. These opportunities span both short-term working capital needs and long-term project financing:

- **Input Supply:** Financing for seed suppliers, particularly those involved in multiplying certified seeds, as well as for agri-input retailers who provide farmers with fertilizers, pesticides, and tools.
- **Production:** Providing seasonal crop loans directly to individual farmers or, more efficiently, to organized farmer groups and cooperatives to cover the costs of cultivation.
- **Infrastructure:** Key opportunities include funding the construction of modern cold-storage facilities, developing a fleet of transport and logistics vehicles to enhance the cold chain, and establishing local collection centers.
- **Infrastructure:** Key opportunities include funding the construction of modern cold storage facilities, developing a fleet of transport and logistics vehicles to improve the cold chain, and establishing local collection centers.
- **Market Access:** Providing working capital for traders, wholesalers, and export-oriented enterprises that connect farmers' produce to larger domestic and international markets.
- **Inclusive Lending: A Commitment to "Leaving No Farmer Behind"** A core theme of Mr. Agasti's presentation was Nabil Bank's commitment to inclusive lending. He emphasized that for agricultural transformation to be sustainable, it must benefit all stakeholders, including the most vulnerable. This requires moving beyond traditional lending models to reach smallholder farmers, women farmers, skilled returnee migrants, and youth agri-entrepreneurs.
- To achieve this, Nabil Bank has developed a portfolio of customized SME loan products designed with the specific needs of these groups in mind:
 - **Nabil Nari Karja & Nabil Sajilo Karja:** These products are designed to be highly accessible, with simplified application processes and collateral requirements, specifically targeting women entrepreneurs and small-scale businesses.
 - **Nabil Sakchhyam Karja:** A loan product aimed at supporting capable and promising entrepreneurs who may lack traditional forms of collateral but have a strong business plan.
 - **Commercial Agro & Livestock Loan:** A more conventional product for larger, established agricultural enterprises.
 - **Nabil Skilled Migrant Entrepreneurship Loan:** A unique product designed to leverage the skills and capital of returnee migrants who wish to invest in agriculture. By offering these targeted products, Nabil Bank aims to enhance credit access through simplified processes and personalized support.

Presentation 10: Mobilizing Private Equity for the Potato Value Chain

Presented by: Mr. Nischal Singh Bhandari, Partnerships and Communication Manager, Aadhyanta, Fund Management Ltd.

Overview: Mr. Nischal Singh Bhandari, representing Aadhyanta Fund Management, one of Nepal's first regulated fund managers, introduced a powerful alternative source of capital to the discussion: private equity and venture capital. He presented a compelling investment thesis for the potato sector, arguing that patient, private capital can bridge critical gaps that traditional debt financing cannot, thereby unlocking commercial scalability and driving innovation across the value chain.

- **The Role of Private Equity in Agriculture:** Mr. Bhandari began by differentiating private equity from traditional bank loans. While banks provide debt, which requires collateral and regular interest payments, private equity funds provide equity capital. This "smart capital" is patient, typically targeting a 5- to 7-year investment horizon, and focused on driving rapid growth and maximizing the company's value. Aadhyanta's investment thesis is to identify high-growth sectors, such as agriculture, and to inject this tactical capital into businesses that have the potential to scale rapidly and generate significant returns while also creating a positive social and economic impact.
- **Key Investment Opportunities in the Potato Value Chain:** Mr. Bhandari identified four key, highly scalable, and interconnected areas within the potato value chain that are particularly attractive for private equity investment:

a. **Tissue Culture Labs:** He described these labs as the absolute foundation of the entire value chain. Without a consistent supply of clean, disease-free Pre-Basic Seed (PBS) from these labs, productivity across the entire sector is capped. He noted that tissue culture is a technology-driven, scalable business with high barriers to entry, making it an attractive investment. A private equity fund could provide the capital needed for a lab to expand its capacity, adopt cutting-edge technologies such as hydroponics, and develop a robust quality-control system, positioning it as a dominant supplier in a market with ever-growing demand.

b. **Farmer-Based Seed Multiplication:** This innovative model positions farmers as "seed entrepreneurs." The concept involves providing high-quality PBS from labs to a network of trained, progressive farmers who then multiply it into certified seed. This decentralized model is highly scalable and impactful. A private equity investment could fund the establishment of this network, providing capital for training, certification, and the creation of a buy-back guarantee system. This empowers farmers economically, builds resilient local supply chains, and dramatically expands the availability of certified seed in rural areas, creating a commercially viable solution to the seed deficit problem.

c. **old Storage & Logistics:** Mr. Bhandari identified the post-harvest segment as the most critical bottleneck in the value chain, with massive losses due to inadequate storage. He argued that this is a prime area for private equity investment. The capital could be used to build and operate a modern, professional cold chain network, including ideally located cold storage facilities and a fleet of refrigerated vehicles. Such an investment is not just about infrastructure; it's about creating a tech-enabled logistics business that can offer storage, transport, and inventory management services to farmers, traders, and processors, generating stable, long-term revenue.

d. **Processing & Value Addition:** This area targets the rapidly growing consumer market. With urbanization and changing lifestyles, the demand for processed potato products like chips, french fries, and dehydrated flakes is surging. Private equity can provide the significant capital required to set up a modern, large-scale processing plant. This investment would cover the cost of high-quality machinery, brand development, and establishing a robust distribution network. By creating a strong brand and a consistent, high-quality product, a processing company can capture a significant share of a lucrative and expanding market.

Presentation 11: Promoting Crop Insurance for Risk Management

Presented by: Mr. Nirmal Adhikari, Director, Nepal Insurance Authority

Overview: Mr. Nirmal Adhikari, representing the Nepal Insurance Authority, delivered a crucial presentation on the indispensable role of crop insurance in creating a resilient and modern agricultural sector. He framed insurance not as a cost, but as a critical investment in risk management. His presentation detailed the core objectives of agri-insurance, outlined significant barriers to adoption, and proposed clear recommendations for government bodies, insurance companies, and other stakeholders to create a more effective and accessible insurance ecosystem for Nepal's farmers.

- **The Core Objective: De-Risking the Agricultural Sector:** Mr. Adhikari began by establishing the fundamental purpose of agricultural insurance. Farming, he noted, is an inherently risky business, with farmers constantly exposed to threats that are entirely beyond their control. These include climate events such as drought, floods, and hailstorms, as well as pest and disease outbreaks. He explained that agri-insurance is a financial tool designed to protect farmers from catastrophic losses caused by these events. This provides farmers with the confidence to continue farming even after a challenging year, and, crucially, it makes them more "bankable." When farmers are insured, their risk of default is lower, which in turn improves their access to bank and other financial institution financing.
- **Barriers to Adoption and Farmer Concerns:** Despite the clear benefits, Mr. Adhikari acknowledged that crop insurance adoption among Nepali farmers remains low. He identified several key barriers and concerns that need to be addressed head-on:
 - **Lack of Awareness and Trust:** Many farmers are simply unaware of how crop insurance works. They lack clear, accessible information on the types of risks covered, premium structures, and the claim-filing process.

- **Perceived High Cost and Complexity:** Farmers often view the insurance premium as an additional, unaffordable cost. The application and claims processes are frequently perceived as being overly bureaucratic, complex, and time-consuming, discouraging farmers from participating.
- **Fear of Low Payouts:** There is a widespread concern among farmers that even if they do file a claim, the assessment process will be unfair and the final payout will be insufficient to cover their actual losses. This perception, whether based on reality or rumor, is a major deterrent.
- **Inefficient Subsidy Delivery:** While the government provides a subsidy on premiums, the mechanism for delivering this subsidy is often slow and inefficient, creating confusion and frustration for both farmers and insurance agents.

Recommendations for a More Effective Insurance System: To overcome these barriers, Mr. Adhikari proposed a multi-pronged strategy involving coordinated action from all stakeholders:

- **Massive Farmer Education Campaigns:** It is crucial to launch widespread awareness programs to educate farmers on the tangible benefits of insurance. These campaigns should use real-life examples and testimonials to demonstrate how insurance can safeguard investments and sustain livelihoods.
- **Simplify and Streamline Processes:** Insurance companies must work to drastically simplify the application and claims processes. This includes creating user-friendly forms, using mobile technology for registration and damage assessment, and ensuring that claims are processed and paid out in a timely and transparent manner.
- **Develop Tailored and Affordable Products:** There is a need to move away from a one-size-fits-all approach. Insurance companies should partner with agricultural experts to develop more affordable and customized insurance products that are tailored to the specific risks faced by different types of crops in different regions.

Presentation 12: Neighboring Countries' Experiences - Lessons from India

Presented by: Mr. S. P. Singh, VP, Supply Chain, Technico Agri Sciences Limited

Overview: Mr. S. P. Singh provided invaluable insights from neighboring India, detailing the key strategies and technological adoptions that have driven the successful transformation and rapid growth of its potato sector. He presented India's journey not as a monolithic success, but as a dynamic process built on three core pillars. Nepal could adapt to its context.

- Pillar 1: A Foundation of Regenerative Agriculture: Mr. Singh emphasized that India's productivity gains did not come from a blind application of inputs, but from a foundational focus on improving soil health through regenerative agriculture. This approach recognizes that healthy, living soil is the most critical asset for sustainable farming. Key practices that were successfully promoted at scale include:
 - Improving Soil Organic Matter: Widespread campaigns were launched to educate farmers on the importance of organic matter. This included promoting the incorporation of paddy stubble and other crop residues back into the soil, rather than burning them, and encouraging the use of compost and farmyard manure.
 - Data-Driven Soil Management: A significant effort was made to build a soil-test history for millions of farmers. This data was then used to provide customized advisories on soil reclamation (e.g., for saline or acidic soils) and to generate precise, scientifically-backed fertilizer recommendations. This data-driven approach significantly reduced the overuse of chemical fertilizers, lowering costs for farmers and improving long-term soil health and environmental outcomes.
- Pillar 2: The Power of the Digital Platform: The second pillar of India's success was the aggressive use of digital technology to increase outreach and disseminate knowledge. Because traditional extension services couldn't reach every farmer, we built a digital ecosystem to deliver timely, customized information. This two-way communication platform included several key features:
 - Operational and Crop Monitoring: Mobile apps and GIS technology were used for field measurement, geo-tagging, and remote crop monitoring, allowing for better planning and management.
 - Customized Advisories: This was the core of the digital strategy. Farmers received a wide range of customized advisories directly on their mobile phones. These included a dynamic crop calendar, hyper-local weather and disease alerts, and customized nutrition recommendations based on their soil test data. A "crop doctor" feature allowed farmers to upload photos of pests or diseases and receive an instant diagnosis and treatment recommendation.
 - Climate-Smart Technology Promotion: The digital platform was also used to promote the adoption of climate-smart technologies and sustainable farming practices, ensuring that the latest research and innovations were being communicated directly to the field.
- Pillar 3: Integrated E-Markets for a Connected Ecosystem: The final pillar was the creation of integrated e-markets that moved beyond simply selling produce to connecting farmers to the entire agricultural ecosystem. These platforms provided a one-stop-shop for farmers' needs:
 - E-platform for Inputs: Farmers could use the platform to purchase high-quality seeds, fertilizers, and other inputs directly, ensuring fair prices and quality assurance.
 - Access to Agri-Credit: The platform was integrated with financial institutions, allowing farmers to apply for and access agricultural credit facilities more easily.
 - E-Marketplace to Sell Produce: The most transformative feature was the ability for farmers to sell their produce directly on the e-marketplace, connecting them with a wider range of buyers and ensuring more competitive and transparent pricing. This integrated digital approach, Mr. Singh concluded, was instrumental in building capacity, improving efficiency, and empowering millions of farmers, providing a powerful model for Nepal's own digital agriculture ambitions.

Presentation 13: The Hand-in-Hand Initiative - An Investment Perspective

Presented by: Deepak Tuladhar, FAO Representative, Hand-in-Hand Initiative

Overview: The representative from the Food and Agriculture Organization (FAO) of the United Nations introduced the Hand-in-Hand (HiH) Initiative, presenting a powerful, data-driven methodology for attracting targeted investment into Nepal's agricultural sector. The presentation moved beyond general recommendations to a specific, financially modelled "Investment Case for Highland Potato," demonstrating how a rigorous, evidence-based approach can de-risk investment and showcase the profound economic, social, and environmental returns possible.

- **The Hand-in-Hand Initiative: A Data-Driven Approach:** The presenter explained that the HiH Initiative is a globally recognized, evidence-based, country-led framework designed to accelerate agricultural transformation. Its core objective is to use sophisticated data and analytics to pinpoint the most impactful and financially viable investment opportunities in a country's food system. The methodology eschews a one-size-fits-all approach, instead relying on advanced geospatial modeling, statistical analysis, and economic modeling to identify specific interventions in specific locations that offer the best "bang for the buck" in terms of raising incomes, reducing poverty, and improving food security.
- **A Bankable Investment Case: The Highland Potato:** The highlight of the presentation was the application of this methodology to create a specific, bankable investment case for highland potato in Nepal. Through its analysis, the HiH Initiative identified highland potato cultivation as a priority investment area with exceptional potential. The presentation outlined a total potential investment of \$8.37 Million USD. This proposed investment is a blended finance model, combining \$1.6 Million USD in public funds (likely for technical assistance, capacity building, and de-risking) with \$6.7 Million USD from the private sector.

- Crucially, the financial model projected a very high Internal Rate of Return (IRR) of 37.27% and a Net Present Value (NPV) of \$10.57 Million USD. These strong financial indicators signal to potential investors that the highland potato sector is not a charity case, but a commercially viable and highly profitable enterprise.
 - **Beyond Financials: The Triple Bottom Line Impact:** Mr. Tuladhar stressed that the returns on this investment extend far beyond the financial numbers. The HiH model also quantifies the profound social and environmental impacts, appealing to the growing number of impact investors who seek a "triple bottom line."
 - **Social Impact:** The investment is projected to have a significant impact on income generation for thousands of smallholder farmers in remote highland communities. A key focus is on the empowerment of women and youth, who are often the primary agricultural workforce in these areas, by creating new employment and entrepreneurial opportunities. This contributes directly to improved food and nutrition security at the household level.
 - **Environmental Impact:** The investment case is built on a foundation of sustainability. It promotes organic farming practices and improved crop rotation, which will maintain and enhance long-term soil health. It also includes the implementation of water-efficient irrigation systems to conserve precious water resources in the fragile mountain ecosystems. Furthermore, the model calculates the emission reduction potential, projecting a reduction of over 4,800 tCO₂-e over 20 years, contributing to Nepal's climate goals. The focus on local landraces and sustainable practices also aids in biodiversity conservation.

Presentation 14: Local Cooperative Initiatives

Presented by: Mr. Badri Karki, Representative, Integrated Shailung Small Farmer Agricultural Cooperative

Overview: Mr. Badri Karki, representing the Integrated Shailung Small Farmer Agricultural Cooperative, provided a vital grassroots perspective that perfectly complemented the high-level policy and financial discussions.

- **The Cooperative as an Implementation Hub:** Mr. Karki's presentation was a showcase of proactive community engagement. He detailed his cooperative's active and successful participation in a wide range of government-led initiatives designed to boost agricultural productivity. The most prominent of these is the Prime Minister Agriculture Modernization Project (PMAMP). He explained how the cooperative has been a key partner in implementing the various stages of this ambitious project, including the Potato Pocket, Block, and Zone programs. Each of these programs represents an increasing level of scale, specialization, and government investment, and the cooperative has been the primary vehicle for organizing farmers, managing resources, and ensuring that the project's objectives are met at the local level.
- **Bridging the Gap: The Role of Organized Local Bodies:** The core message of Mr. Karki's presentation was the unique and essential function of the cooperative in the agricultural ecosystem. He demonstrated that cooperatives are far more than just groups of farmers; they are professional, community-owned institutions that perform several critical roles that individual farmers cannot.
 - **Channeling Resources:** The cooperative acts as a reliable and transparent conduit for channeling government resources—such as subsidies for seeds and fertilizers, and grants for small-scale infrastructure—directly to its member farmers. This ensures that support reaches its intended beneficiaries efficiently and without leakage.
 - **Disseminating Knowledge and Technology:** Cooperatives serve as local hubs for training and capacity building. They work with government extension services and private companies to organize training sessions on new farming techniques, integrated pest management, and post-harvest handling. This model of peer-to-peer learning within a trusted community institution is often far more effective than traditional top-down extension approaches.
- **Facilitating Collective Action:** Perhaps the most important role is facilitating collective action. By pooling their resources, cooperative members can achieve economies of scale that are impossible for individual smallholders. This includes bulk purchasing of inputs at lower prices, which reduces the cost of production, and, crucially, collective marketing of their produce. By aggregating their harvest, the cooperative can negotiate with larger buyers from a position of strength, securing better prices and more favorable terms for its members and breaking the dependency on exploitative middlemen.
- **Providing Access to Finance:** The cooperative also often serves as a local financial institution, providing its members with access to credit for agricultural inputs and other needs, further strengthening their economic resilience.
- Mr. Karki's presentation powerfully illustrated that without strong, well-managed, and engaged local institutions like the Integrated Shailung Small Farmer Agricultural Cooperative, even the best-designed national policies and programs will

Presentation 15: A Roadmap for High-Quality Potato Seed Access

Presented by: Mr. Shalik Ram Gautam, Senior Crop Development Officer, Seed Quality Control Center.

Overview: Mr. Shalikram Gautam, an agriculturist and Potato Specialist, provided a comprehensive overview of the potato's role as a cornerstone for food, nutrition, and income security in Nepal. He highlighted that the potato is the country's fifth major crop and ranks second in terms of productivity, contributing significantly to the national economy with a 6.57% share of the Agricultural Gross Domestic Product (AGDP). Over the past thirty years, he noted a substantial upward trend in both cultivation area and production volume, with productivity increasing from approximately 8.35 metric tons per hectare in 1990/91 to 17.15 metric tons per hectare by 2021/22.

In discussing the technical and nutritional aspects of the sector, Mr. Gautam emphasized the potato's high concentration of Vitamin C, Vitamin B6, and potassium, which are vital for public health. He detailed the progress made in varietal development, noting that 11 varieties have been officially released—including Kufri Jyoti and Janak Dev—while an additional 7 varieties have been registered to suit various agro-climatic zones. Despite these advancements, he pointed out that the industry still faces a significant hurdle in seed quality, as only 15% of the total seed requirement is currently met by improved varieties.

To address the sector's systemic challenges, Mr. Gautam outlined a strategic "way forward" focused on modernization and policy support. He identified high production costs, climate change, and a heavy dependency on imports from India and Bhutan as primary obstacles that must be overcome. He recommended a shift toward specialized zoning for potato production, the provision of subsidies for machinery and electricity, and the expansion of crop insurance. Furthermore, he urged for increased private sector investment in cold storage and processing-grade varieties to capitalize on the growing domestic demand for products like chips and French fries

Presentation 16: Potato VC Development

Presented by: Hikmat Kumar Shrestha, Chief, Prime Minister Agriculture Modernization Project (PMAMP)

Hikmat Kumar Shrestha outlines a shift from a traditional agriculture-based economy to a modernized agro-based industry. As a key representative for PMAMP, his presentation focuses on:

- **Modernization:** Utilizing mechanization and specialization to create a self-reliant economy.
- **Sustainability:** Ensuring food and nutrition security through integrated agricultural value chains.
- **Industrialization:** Transitioning farmers from simple production to organized industrial clusters.

Under Shrestha's presentation of PMAMP's outcomes, the potato sector shows significant performance improvements over national averages:

- **Productivity:** PMAMP-supported areas achieve 23.28 Mt/ha, significantly higher than the national average of 17.2 Mt/ha.
- **National Contribution:** While PMAMP covers only 6.22% of the national potato area, it contributes 8.42% of total production.
- **Infrastructure:** He highlights the establishment of 20 Potato Zones and 2 Superzones, supported by 10 potato chips industries and 68 rustic/cold stores.

Despite the progress, Shrestha identifies several critical "pain points" that require immediate attention:

- **Resource Gaps:** Lack of adequate irrigation in specialized zone areas.
- **Land Management:** An increasing trend of fallow land and a lack of clear guidelines for "crop pooling" or contract farming.
- **Quality Control:** Issues with agro-chemical formulations (noting a specific case in Nuwakot where crops were "burned" by wrong fungicide).
- **Pests & Logistics:** The Potato Tuber Moth (PTM) remains an uncontrolled threat in storage, while road disturbances during the rainy season hinder transportation.

Shrestha highlights Dadeldhura as a model for seed potato production:

- **Seed Multiplication:** Producing 70–75 thousand PBS (Pre-Basic Seed) potatoes from varieties like Dizere and Cardinal.
- **Export & Storage:** Exporting 150 MT of seed and maintaining 550–600 MT in cold storage.
- **Financial Support:** Implementing cash incentives of NRs 2 per kg for storage and NRs 5000 per ropani for seed producers.

Speech 1: Ms. Sushila Chaudhary***Organizer, Nawa Pratibha Krisak Sahakari Org.***

Representing the farmers of the Nawa Pratibha Krisak Sanavari organization, Sushila Chaudhary highlighted the significant growth and modernization of the agricultural sector. She noted that the organization currently consists of 402 members, with 24 specifically focused on True Potato Seed (TPS) technology. Since 2002 (B.S. 2081), external organizational support has empowered farmers to increase their overall output. Chaudhary emphasized the success of joint research grants, which are split equally between the organization and the farmers, noting that these funds have been instrumental in recent developments.

Furthermore, she detailed a significant improvement in the accessibility of essential resources. Previously, TPS seeds were difficult to obtain and cost 500 NRS per 10-gram packet; however, through Alu Bali Bikas Nigalaya in Sindhupalchok, the price has been reduced to 350 NRS. This reduction in cost, alongside improved fertilizer use and the implementation of "Tilak power" for irrigation, has made the potato sector increasingly profitable.

Speech 2: Mr. Krishna Bhakta Shrestha***President, Nepal Cold Storage Association***

Krishna Bhakta Shrestha, President of the Cold Storage Association and representative of Chobar Cold Storage, addressed the systemic challenges facing the storage industry. He reported that the nationwide storage capacity has reached 2 lakh metric tons. The government has yet to provide sufficient justice or support to the seed storage sector. Shrestha pointed out that the industry has been petitioning for electricity tax exemptions since B.S. 2054, yet many facilities remain non-functional and lack government reimbursement.

A primary concern raised by Shrestha was the absence of a dedicated insurance policy for the potato sector. He also cited significant infrastructure issues in Banepa, where five storage facilities are struggling and ten have already gone to waste due to rot, a matter that has been raised with local authorities. Because these facilities typically only function for six months a year, the private sector faces severe financial strain. Shrestha urged for immediate budget improvements to eliminate the current multi-billion rupee losses and to end the industry's reliance on foreign seeds.

Speech 3: Mr. Biswas Rai***General Manager, CG Foods Nepal Pvt. Ltd.***

Bikash Rai, representing CG Foods Nepal Pvt. Ltd., shared extensive industry insights regarding the operation of two potato chips plants located in Nawalparasi and Sunsari. Since the inception of the potato plant operations in 2004, the industrial demand has grown to approximately 3,000 metric tons of potatoes annually to sustain a daily processing capacity. He noted that while the majority of these raw materials are currently imported from India, the company is prepared to offer a 100% buy-back guarantee to local producers through agreements like the Nawa Jana Samparka Samuha, provided they can meet specific quality and quantity benchmarks.

To be suitable for high-quality chip manufacturing, Mr. Rai emphasized that potatoes must meet rigorous technical parameters. Specifically, the reducing sugar content must be less than 0.9% to ensure the final product is visually attractive and commercially viable; exceeding this limit renders the potatoes unusable for chips. Additionally, he specified that moisture levels should exceed 80% to maintain productivity, and the ideal size for processing is between 2 and 3 inches, as deviations in size create operational difficulties.

Addressing the logistical and seasonal challenges, Mr. Rai highlighted the importance of the potato cycle, noting that January through March is the peak farming season. He suggested that by aligning this cycle with the diverse weather patterns across Nepal, the industry could achieve year-round availability. He concluded that while significant challenges remain, targeted collaboration and infrastructure improvements could eliminate the need for imports and develop a self-sufficient industry in Nepal.

Speech 4: Mr. Prakash Gajurel

General Secretary, The Nepal Agricultural Produce and Potato, Onion Import Export and Wholesalers Association

Mr. Prakash Gajurel, General Secretary of the Nepal Agricultural Produce and Potato, Onion Import Export and Wholesalers Association, opened his remarks by referencing the organizational analysis conducted between 2077 and 2078 (B.S.). He explained that the association was founded specifically to address the pervasive challenges and problems faced by farmers and agriculturists, noting that there remain significant "holes" or gaps in the current industry that require attention.

To bridge this gap, Mr. Gajurel advocated for providing direct technological production knowledge to farmers currently working in the field. He also stressed the vital importance of grading and packaging, noting that the lack of standardized practices in these areas results in substantial economic losses for both individual producers and the nation as a whole. He concluded by calling for a shift in priority toward supporting and valuing Nepali agricultural products to ensure long-term sustainability for all stakeholders



DECLARATION & RECOMMENDATIONS

A presentation was delivered by Dr. Januka Pandit, Joint Secretary and Spokesperson, Ministry of Agriculture and Livestock Development, entailing declarations and recommendations that were drawn from the summit.

1. Strengthening Seed Systems and Forecasting

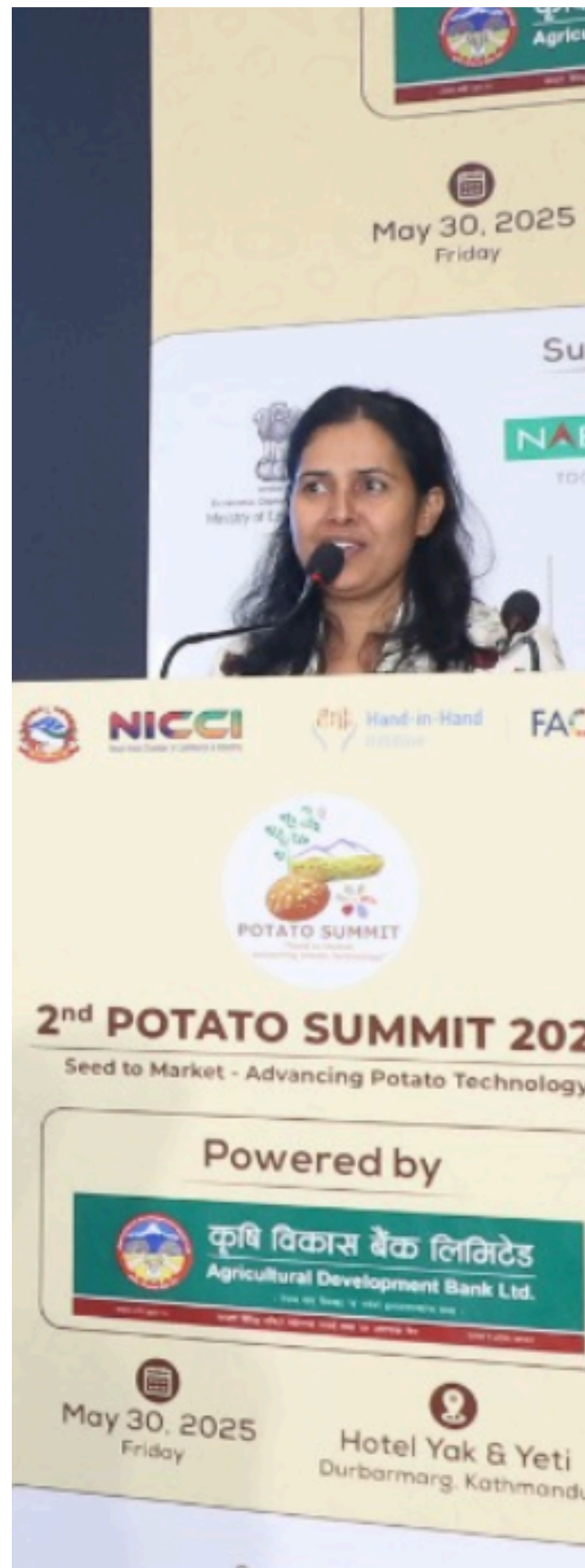
- Ensure adequate supply of quality Pre-Basic Seed (PBS) and True Potato Seed (TPS) through improved forecasting and demand assessment.
- Develop and maintain a national balance sheet and sales timeline for PBS production and distribution.
- Upgrade the existing PBS production protocol (1994) in line with current technological standards.
- Guarantee timely tagging and certification of PBS by relevant authorities.
- Establish separate cold storage facilities dedicated to PBS seed.
- Introduce insurance coverage for PBS stored in cold storage.
- Improve availability of sufficient and quality mother culture to meet farmers' demand.
- Ensure timely release of government funds for seed procurement and distribution.

2. Variety Development and Climate Resilience

- Expand the range of potato varieties to suit diverse agro-ecological niches and changing cropping systems.
- Promote development and adoption of heat- and drought-tolerant, insect- and disease-resistant varieties.
- Improve ware and processing quality varieties to support industrial demand.
- Address deterioration of parental lines of TPS and update genetic material regularly.
- Strengthen conservation and utilization of local germplasm and parental lines.

3. Productivity Enhancement

- Address low national productivity (17.04 MT/ha) through improved seed quality, mechanization, and climate-resilient technologies.
- Promote mechanization in planting, harvesting, and storage.
- Support research and dissemination of improved agronomic practices to raise productivity toward international benchmarks.



4. Infrastructure and Industrial Development

- Promote investment in cold storage infrastructure, including ensuring effective utilization of constructed facilities.
- Strengthen linkages between seed production, processing industries, and market channels.
- Encourage private sector participation in seed production and processing with transparent rate mechanisms.
- Facilitate infrastructure development in collaboration with development partners.

5. Policy, Regulatory, and Institutional Reforms

- Review and harmonize policies, rules, and regulations related to seed production, tissue culture labs, and certification standards.
- Clarify quota allocation and domain specifications for registered potato tissue culture laboratories.
- Ensure transparency in subsidy programs and monitor outcomes under PMAMP.
- Address legal clarity on seed pricing mechanisms, including PBS rate adjustments.
- Ensure equitable quality testing standards for domestic and imported seeds.

6. Risk Management and Protection

- Expand crop insurance coverage for potato cultivation.
- Address challenges from wild animal attacks (e.g., wild boar and monkeys) affecting potato farms.

7. Learning from International Best Practices

- Adopt lessons from India's experience in strengthening seed industries, improving quality, investing in processing, and expanding infrastructure.
- Promote climate-resilient and geographically diversified production systems.
- Encourage collaboration with research institutions and global breeders for improved varieties.

8. Pathway to Self-Sufficiency

- Achieve self-sufficiency either by increasing national productivity to 18.30 MT/ha or expanding cultivation area by 17,898 hectares.
- Prioritize supply of quality seed of demanded varieties as the most effective solution for enhancing production and reducing import dependence.

These declarations and recommendations collectively emphasize the need for a coordinated approach among government, private sector, research institutions, and development partners to advance Nepal's potato sector from seed to market.

OUTCOMES & CONCLUSIONS

Outcomes

The summit concluded with the 16 formal presentations of a comprehensive dossier containing insights from farmers, data from experts, and agronomist recommendations. This document was presented to MoALD to serve as an actionable policy guide.

The Recommendation of the Summit - Declaration specifically calls for:

- Strengthening public-private partnerships to drive innovation.
- Implementing tactical investments in storage and marketing to enhance competitiveness.
- Accelerating the adoption of modern seeds and mechanization.

The event closed with a vote of thanks by Mrs. Sunita Nhemhaphuki (CEO of 3S Foundation), acknowledging the collective effort required to transform Nepal's potato sector into a self-reliant pillar of the economy.



ACHIEVEMENTS

Key Achievements

Policy Integration and Roadmap

One of the most significant achievements was the formal integration of recommendations from the first summit into government policy. The Ministry of Agriculture and Livestock Development (MoALD) reported that several previous declarations had already been addressed, with work ongoing for the remainder. The 2025 summit concluded with the presentation of a comprehensive dossier to MoALD, serving as an actionable policy guide that includes specific declarations on seed systems, mechanization, and risk management.

Prioritization of Highland Potatoes

Through the Food and Agriculture Organization's (FAO) Hand-in-Hand Initiative (HiHI), highland potatoes were officially designated as a priority commodity for targeted investment. This initiative provides a data-driven investment case to catalyze rural development, enhance food security, and improve resilience in remote mountain communities.

International Cooperation and Knowledge Transfer

The summit strengthened international ties, particularly with India, to improve seed quality and disease management. Keynote speakers shared India's journey from a potato importer to an exporter to 37 countries, providing a model for Nepal to adopt regenerative agriculture and digital e-market platforms to empower local farmers.

Private Sector and Financial Mobilization

The summit successfully engaged major financial institutions like the Agricultural Development Bank (ADBL) and Nabil Bank to develop tailored credit products for the potato value chain. It also highlighted the role of private equity in bridging funding gaps for high-growth areas like tissue culture labs and modern processing plant

→ **244**
Attendees

→ **16**
Presentations

WAY FORWARD



The consensus of the 2025 summit points toward a high-tech, investment-driven future:

- Self-Sustainability Targets: Increasing production to 18.30 metric tonnes per hectare through agro-climatically suitable parent plants.
- Financial Inclusion: Expanding the reach of financial institutions through tailored loans for infrastructure.
- Regional Collaboration: Leveraging India's experience in variety development to suit Nepal's diverse micro-markets.

GALLERY



GALLERY



GALLERY



GALLERY



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