

Policy Brief No. 14

National Academy of Agricultural Sciences

***Best Practices in Agricultural
Cooperatives in the Global Arena***

***Empowering Cooperatives in India for Sustainable
Economic Growth and Rural Transformation***



New Delhi
April 2026

***Best Practices in Agricultural
Cooperatives in the Global Arena***

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Economic Growth and Rural Transformation***

National Academy of Agricultural Sciences
New Delhi

April 2026

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Dr. P.K. Joshi, Former Director - South Asia, International Food Policy Research Institute (IFPRI), New Delhi
Dr. W.S. Lakra, Former-Vice Chancellor, Central Institute of Fisheries Education (CIFE), Mumbai
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Dr. P.S. Birthal, Former Director, National Institute of Agricultural Economics and Policy Research (NIAP), New Delhi
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Dr. R.K. Pal
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Preface

Agricultural cooperatives have been powerful instruments for strengthening farmers' livelihoods, improving market access, and promoting rural development. In the face of the rapidly changing agricultural landscape, characterized by technological advancements, climate challenges, and market integration, the role of cooperatives in the lives of farmers has become more relevant than before. Cooperatives offer an opportunity to farmers, especially small and marginal, to strengthen their position through collective action, thus paving the way for the development of the agricultural sector in the country.

Realizing the importance of cooperatives in the development of the agricultural sector in the country, the National Academy of Agricultural Sciences (NAAS) in association with the Indian Council of Agricultural Research (ICAR) and other international organizations organized an international workshop on "Best Practices in Agricultural Cooperatives in the Global Arena: Empowering Cooperatives in India for Sustainable Economic Growth and Rural Transformation" in New Delhi during December 15-16, 2025. The workshop was attended by over seventy experts, policymakers, cooperative leaders, and researchers from nine countries.

The discussion during the workshop underscored the significance of effective leadership, professional management, technological innovation, and involving youth and women in cooperative enterprises. At the same time, the participants emphasized the need for policy support, capacity building, value addition, and stronger linkages between cooperatives and both domestic and international markets for their sustainability.

This policy brief presents key deliberations and recommendations from the workshop. It is hoped that this publication will prove to be a useful resource for all those concerned with enhancing agricultural cooperatives and leveraging their full potential for rural transformation and sustainable economic development in India and all over world.

I thank the Conveners (Dr. K.M. Maredia, Dr. P.K. Joshi & Dr. W.S. Lakra), Reviewers (Dr. Mrutyunjaya & Dr. P.S. Birthal) and Editors (Dr. R.K. Jain & Dr. R.K. Pal) for bringing out this document in the present form. I also thank Dr. Himanshu Pathak, Past President for his support.

April 2026
New Delhi



(Dr. M.L. Jat)
President

Best Practices in Agricultural Cooperatives in the Global Arena

Empowering Cooperatives in India for Sustainable Economic Growth and Rural Transformation

Background and Context

Globally, more than 600 million smallholder farmers cultivate two hectares or less of land. In India, they make up approximately 90% of all farm households. The agricultural landscape is shifting toward more knowledge-based, technology-driven farm mechanization, precision farming, market orientation, and integrated value chains. In this context, individual farmers—especially smallholders with small landholdings and limited resources—face significant challenges due to climate change, globalization, increased pressure on natural resources, poor rural infrastructure, weak institutions, limited private-sector engagement, and poor governance. These challenges include: (i) high transaction costs for procuring inputs & accessing markets; (ii) high production & price risks; (iii) rising transaction costs to obtain information, technology, & inputs because of small-scale operations; (iv) weak bargaining power in both input & output markets; and (v) limited access to credit, modern value chains, storage, & processing facilities. Farmers currently lack a viable and sustainable institutional model to organize, connect, and benefit from markets.

One important strategy is to pursue institutional innovations that promote effective collective action by organizing farmers into groups such as Farmer Organizations (FOs), cooperatives, Self-Help Groups, contract farming, cluster farming, Farmer Producer Companies, and similar entities within modern value chains. By encouraging mutual support, risk sharing, and economies of scale, these initiatives empower farmers to participate more actively in modern value chains. Therefore, cooperatives play a vital role in enhancing rural livelihoods and fostering inclusive rural prosperity.

India has a rich history of cooperatives. The first credit cooperative was founded in 1904. Today, India boasts one of the largest cooperative networks globally, with over 800,000 cooperatives serving more than 300 million members. These cooperatives operate in various sectors, including input supply, production, marketing, procurement, processing, storage, credit, and finance. Dairy, sugar, fertilizer and farm credit services cooperatives have achieved notable success (see Box 1-3).

Based on valuable lessons, the Government of India has taken significant and forward-looking steps to strengthen the cooperative movement across various sectors, including agriculture, health, housing, and finance. Acknowledging the transformative power of collective effort, the government established a dedicated Ministry of Cooperation in 2021 to provide a unified national framework for realizing the vision of “Prosperity through Cooperation.” The Ministry has initiated a series of structural, legal, professional, financial, managerial, and technological reforms to improve the efficiency, transparency, and sustainability of cooperative organizations. These efforts have focused on empowering grassroots organizations, raising governance standards, expanding digitalization, and integrating cooperatives more effectively with new stakeholders, especially at the grassroots level, markets, and value chains. Overall, these initiatives involve significant changes in outlook, processes, business models, and strategy for cooperatives. All these renewed efforts have elevated the status of cooperatives in India, enabling them to seize missed opportunities in the past and effectively face future challenges. Building on these reforms, the Ministry introduced the new “National

BOX 1. Anand Milk Union Limited (AMUL)¹

Amul (Anand Milk Union Limited) was established in 1946 in Anand, Gujarat. It was a farmer-led initiative to counter the exploitation of milk producers by intermediaries. It was founded under the leadership of Mr. Tribhuvandas Patel, with Dr. Verghese Kurien later strengthening and scaling the cooperative model, contributing significantly to India's White Revolution. The model was replicated by several state-level milk cooperatives in India.

Amul follows a three-tier structure consisting of village-level dairy cooperative societies, district milk unions, and the state-level Gujarat Cooperative Milk Marketing Federation (GCMMF). Members supply milk to village societies and receive payments based on quantity and quality (largely fat content). The integrated system manages procurement, processing, branding, and marketing efficiently while keeping ownership with farmers. The model ensures that a major share of consumer price reaches the producers.

Amul Cooperative has about 3.6 million milk producer members, largely small and marginal farmers. There are about 18,000 village dairy cooperative societies under Amul that procure approximately 33-35 million liters of milk per day. The annual turnover of Amul Cooperative has surpassed Rs 1 lakh crore (approximately US\$ 12 billion) in 2025-26.

Best practices behind Amul's success

- A three-tiered cooperative structure, which is democratic, farmer-owned governance structure.
- Eliminates middlemen, ensures better price realization.
- Assured and timely payments to farmers.
- Transparent pricing based on fat content and quality.
- Strong supply chain and cold storage infrastructure.
- Professional management of milk procurement, processing, and marketing, with cooperative principles.
- Effective branding and advertising with a nationwide distribution network.
- Focus on value addition and product diversification having more than 200 distinct milk products.

Recently, Amul (Gujarat Co-operative Milk Marketing Federation Ltd.) has partnered with the Massachusetts Institute of Technology (MIT) in the USA to develop innovative milk chilling technologies. In 2024, it partnered with the Michigan Milk Producers Association to launch fresh milk in the USA.

Amul remains a globally acclaimed example of an inclusive and sustainable cooperative model.

¹<https://amul.com/m/about-us>

Cooperative Policy” in 2025 to outline a comprehensive and future-oriented roadmap for the sector². The policy aims to reposition cooperatives as a dynamic engine of inclusive growth, socio-economic development, agricultural modernization, and rural transformation. It is based on five core principles designed to revitalize the cooperative movement and strengthen its role as a catalyst for efficient, fair, and sustainable development.

²https://www.cooperation.gov.in/sites/default/files/2025-07/NCP%28Eng%29_24Jul2025_Final.pdf

BOX 2. Indian Farmers Fertilizer Cooperative Limited (IFFCO)³

The Indian Farmers Fertilizer Cooperative Limited (IFFCO) represents one of the most successful models of a farmer-owned fertilizer cooperative. It was established in 1967, with 57 cooperatives, and gradually expanded into a vast network of about 35,000–36,000 member cooperatives, serving over 50–55 million farmers across the country.

The scale of operations reflects IFFCO's inclusiveness, efficiency, and economic strength. Its annual sale exceeds 113 lakh metric tonnes with a turnover of about ₹41,000 crore (approximately US\$ 4.42 billion) in 2024–25. It is now among the largest cooperatives globally and contributes significantly to India's fertilizer supply and agricultural productivity. The cooperative structure ensures that farmers are not just consumers but also owners, sharing benefits and decision-making power.

Best practices behind IFFCO's success⁴

- **Farmer-centric ownership:** Members are both users and stakeholders, ensuring accountability and trust.
- **Strong distribution network:** Extensive reach through thousands of cooperative societies ensures last-mile delivery.
- **Economies of scale:** Large-scale production reduces costs and stabilizes fertilizer prices.
- **Diversification of portfolio:** Expansion into agri-services, insurance, and digital platforms strengthens rural ecosystems.
- **Technological innovation:** Adoption of products like nano-fertilizers improves efficiency and sustainability.
- **Global collaborations:** Joint ventures in countries like Oman and Jordan enhance raw material security.

The fertilizer cooperatives in India have demonstrated that collective action, together with professional management and innovation, can deliver both economic viability and social impact, making them a model for inclusive agricultural development.

³<https://www.iffco.in/en/corporate/>

⁴<https://www.iffco.in/en/home>

1. Prosperity through cooperation

The policy is developed on the belief that cooperation is one of the most effective ways to enhance farmers' incomes. It recognizes that economically strong cooperatives lead to stronger villages, more resilient rural economies, and greater social cohesion. By promoting collective action, the policy seeks to create economies of scale and shared prosperity.

2. Strengthening primary-level institutions:

A major focus of the policy is the revitalization of grassroots cooperative institutions. Special emphasis is placed on:(i) Primary Agricultural Credit Societies (PACS); (ii) dairy cooperatives; (iii) fisheries cooperatives; and (iv) marketing cooperatives. An important development is that PACS are being transformed into multi-functional entities. Beyond credit services, they are now permitted to undertake activities such as storage, processing, input supply, and operation of fair price shops. This diversification enhances their organizational personality and financial viability, strengthens village-level institutions, and creates additional employment opportunities in rural areas.

Box 3. GreenStone Farm Credit Services⁵

GreenStone Farm Credit Services was established in 1916 and serves over 29,000 members across Michigan and northeast Wisconsin in USA. GreenStone Farm Credit Services provides a wide range of financial services to the agricultural industry, including short, intermediate, and long-term loans; residential and country home loans; equipment and building leases; life insurance and crop insurance; and accounting and tax services, which provide financial and educational resources for young, beginning, and small farmers, promoting the future of farming.

Best practices behind GreenStone's success

- **Member-led democratic governance:** Members elect the nomination committee, which nominates candidates; members elect directors.
- **Equitable profit sharing:** Members of the cooperative share in the financial returns of the cooperative in a fair and equitable manner while maintaining sufficient capital to assure sustainability.
- **Member-focused services with market alignment:** Products and services selected based on members' needs and market demand.
- **Professional management:** Skilled, mission-aligned leadership and management
- **Cooperation among cooperatives:** Collaborate with, support, and finance other cooperatives.
- **Policy advocacy and concerns for community:** Promote and support enabling policies and educate various stakeholders on the importance of cooperatives.

⁵Source: Mr. Peter Lemmer, Executive Vice President and Chief Legal Counsel, GreenStone Farm Credit Services, Lansing, Michigan, U.S.A.

3. Ensuring transparency, conducive policy and good governance

The policy emphasizes institutional reforms to enhance accountability and trust. Key measures include computerizing cooperative operations, including communications, following best production and business practices, implementing professional auditing systems, and adopting clear, standardized governance frameworks, including dynamic and flexible norms and operating procedures, democracy through regular and fair elections, periodic capacity development, training and of office bearers and members and entrepreneurship development. These initiatives aim to reduce inefficiencies and mismanagement and strengthen members' trust and confidence in cooperative institutions.

4. Expanding opportunities for youth and women

Recognizing the importance of demographic dynamism, the policy encourages greater participation of youth and women in the cooperative movement. It promotes youth engagement, supports women-led cooperatives, and prioritizes skill development and capacity-building initiatives. Such measures are expected to introduce innovation, professionalism, and new energy into the cooperative sector.

5. Enhancing market access and value realization

The policy seeks to integrate cooperatives more effectively with modern markets. With institutional support, cooperatives can establish direct market linkages, participate in exports of raw and processed products, and reduce dependence on intermediaries. Improved market access will enable farmers to secure better price realization and enhance overall farm profitability.

In addition, in July 2025, the Tribhuvan Sahkari University (TSU) was established as India's first dedicated cooperative university. The institution has been envisioned as a national center of excellence to strengthen the cooperative sector by developing a professionally trained, skilled, and future-ready workforce, while also promoting research, innovation, policy and capacity building in cooperative management and governance.

The United Nations proclaimed 2025 the “*International Year of Cooperatives*”, with the theme “Cooperatives Build a Better World,” reaffirming the critical role of cooperative institutions in advancing inclusive and sustainable development worldwide.

In this context, the Academy in association with ICAR and other international partners organized an international workshop on “*Best Practices in Agricultural Cooperatives in the Global Arena: Empowering Cooperatives in India for Sustainable Economic Growth and Rural Transformation*” in New Delhi, India during December 15–16, 2025 (Programme details, Annexure I) with the following specific objectives:



- Exchange global best practices and lessons from agricultural cooperatives to inform policy and practice.
- Facilitate dialogue and establish a global network of cooperatives among cooperative leaders and representatives on governance, management, and long-term sustainability, and promote international collaboration for sharing knowledge on education, training, and capacity-building across various aspects of agricultural cooperatives.
- Develop actionable policy recommendations to strengthen agricultural cooperatives in India and disseminate them through a scholarly publication or policy brief.

Over 70 leaders and representatives of agricultural cooperatives from nine countries, including Brazil, France, India, Indonesia, Nepal, the Philippines, Sri Lanka, Tanzania, and the U.S.A., participated in the workshop (Annexure II). The workshop was inaugurated by Dr. M.L. Jat (Director General, ICAR, and Secretary, DARE, Government of India). The deliberations focused on: (i) experiences from



the international community; (ii) experiences from Indian cooperatives; (iii) experiences from Indian Professional Agricultural Societies; and (iv) a Panel Discussions on Formulating Recommendations and the Way Forward for Cooperatives to Strengthen Rural Development.

Key Recommendations

The following key recommendations emanated from the workshop to strengthen agricultural cooperatives in India:

Strengthen Policy and Institutional Ecosystem

1. **Sustained policy support:** The Government should continue to provide an enabling policy environment that supports the growth, modernization, and competitiveness of agricultural cooperatives. Policy frameworks should align with the goals of the National Cooperative Policy (2025) and promote cooperatives as key institutions for rural economic transformation.
2. **Institutional coordination:** Establish mechanisms for coordination among government agencies, cooperative federations, financial institutions, and research organizations for knowledge exchange and policy dialogue.
3. **Monitoring, evaluation, and performance benchmarking:** Develop a framework for monitoring and evaluating cooperative performance using standardized indicators related to governance, financial performance, member participation, market engagement, and social impact.

Governance, Leadership, and Professional Management

1. **Visionary and accountable leadership:** Visionary leadership is critical for the overall success of the cooperatives. Leaders who are creative, inclusive, team builders, transparent, open to change,

and who serve the interests of cooperative members should be identified, encouraged, and given adequate opportunities to lead and shape the future of cooperatives.

2. **Professionalization of cooperative management:** For the success of the cooperatives, professionalism in governance, operations, transparency, communication, compliance, accounting, auditing, business plan development, risk aversion, sustainability, services aligned to the membership needs, hiring of professional expertise, board member selection, and local specificity and culture should be institutionalized and treated as a non-negotiable foundation for effective and resilient cooperatives.

Market Integration and Diversification

1. **Diversification along agri-food systems:** Cooperatives should extend their activities beyond traditional ones, encompassing product diversification, value addition, branding, packaging, and certification to expand market access at national and international levels, including export markets.
2. **Strengthening market linkages:** Cooperatives should establish direct linkages with domestic and international markets, including export opportunities, to improve price realization and reduce dependence on intermediaries.
3. **Environment and natural resources stewardship:** Since climate change is adversely affecting natural resources and agricultural productivity, cooperatives should include carbon sequestration, carbon credits, and other environmental & natural resources stewardship aspects.
4. **Inter-cooperative alliance:** Foster collaboration and cooperation among cooperatives having common goals and needs to enhance marketing and trading through scaling up and value addition.

Technology, Digital Transformation, and Innovation

1. **Technology and digitization:** Since technology is constantly evolving and changing very fast, cooperatives should quickly embrace and harness new technologies such as data management tools, artificial intelligence (AI), blockchains, and Internet of Things (IoT). Cooperative members should upgrade their skills to leverage technological changes.
2. **Innovation in cooperative services:** Digital tools should also be used to improve access to market information, extension services, financial services, and supply chain coordination.

Human Capital Development and Social Inclusion

1. **Education, training, and mentoring program:** Develop and offer appropriate education, training, mentoring, and awareness programs to develop the next generation of leaders, as well as membership education and continuing education for employees. These programs may include short courses, study tours, degree and non-degree programs, webinars, seminars, and financial literacy programs, through appropriate links with universities, offered both in-person and digitally. Re-introduce courses on agricultural cooperatives at the graduate level.
2. **Inclusion of youth and women:** Leaders of cooperatives should make concerted and sustained efforts to engage youth and women, especially in leadership roles.
3. **Welfare programs:** Cooperative programs should extend beyond access to credit and profit-sharing to include welfare programs, such as education for children, life insurance, and other family welfare programs. These programs shall provide incentives and rewards to members to stay loyal and build trust.

4. **Networking, communication, and information sharing:** Develop and implement programs that provide networking opportunities for cooperative members and staff. Sharing of best practices through national, regional, and international forums, WhatsApp groups, webinars, and social media.
5. **NAAS as a knowledge partner:** NAAS plays a critical role as a knowledge partner for regularly sharing evidence-based information, fostering networking, and developing policy briefs and guidance documents for the policy makers and leaders of cooperatives.

Financial Innovation, Monitoring and Evaluation

1. **Innovative financing and incentive models for members:** Develop innovative models for easy and rapid access to capital and profit sharing through processes that are friendly and relevant to members. Access to capital is the most important pillar of any cooperative.
2. **Global cooperative funding:** Create a global funding institution for cooperatives to mobilize long-term capital, support innovation, strengthen governance, and enable cooperatives to compete effectively in domestic and international markets.
3. **Monitoring and impact evaluation:** Develop an appropriate framework for periodic and continuous monitoring and evaluation of impacts of cooperative operations, programs, and services using feedback from members and other relevant stakeholders.
4. **Indicators of success and benchmarking:** Establish a credible national institution or program to rank agricultural cooperatives by developing performance indicators. These may be based on cooperative principles and international best practices. An annual “*Outlook of Cooperatives*” report may be published to benchmark cooperative performance, enabling them to assess their relative standing and ranking at both national and global levels.

These recommendations align with the key goals of India’s National Cooperation Policy, approved in 2025, as well as with cooperative principles and values in line with international best practices. Overall, these recommendations will enhance the policy environment and new initiatives to further strengthen cooperatives and empower smallholder farmers for sustainable growth and rural development in India, contributing to the vision of Viksit Bharat 2047 (Developed India 2047) and India achieving the UN Sustainable Development Goals (SDGs).

Programme Details

Day 1: Monday, December 15, 2025

8:30 am	Registration and Tea & Coffee	
10:00 am	Welcome	Dr. W.S. Lakra (Secretary, NAAS)
10:05 am	About the Workshop	Prof. K.M. Maredia (Foreign Secretary, NAAS)
10:15 am	Remarks	Dr. P.K. Joshi (Vice President, NAAS)
10:25 am	Inaugural Address	Dr. M.L. Jat (Secretary, DARE & Director General, ICAR)
Felicitation of the Chief Guest		
10:55 am	Vote of thanks	Dr. Ch. Srinivasa Rao (Director, ICAR-IARI)
11:00 am	Tea/Coffee Break	
11:30 am	<p>Session-I: Sharing Best Practices in Agricultural Cooperatives from Cooperatives in Different Countries</p> <p>Chair: Dr. P.K. Joshi, Former Director - South Asia, IFPRI, New Delhi</p> <ul style="list-style-type: none"> • North American Experience <ul style="list-style-type: none"> ◆ Mr. Peter Lemmer, Executive Vice President, Chief Legal Counsel, Green Stone Farm Credit Services, U.S.A. • Europe Experience <ul style="list-style-type: none"> ◆ Mr. Binay Agarwal, Deputy Chief Executive Officer, InVivo Group, France • African Experience <ul style="list-style-type: none"> ◆ Dr. Honest Kessy, General Manager, Kilimanjaro Native Cooperative Union, Tanzania • Asia Experience <ul style="list-style-type: none"> ◆ Ms. Maria Victoria S. Anahaw, Manager, Caviteño Isabelino Multipurpose Cooperative, Philippines • Latin American Experience <ul style="list-style-type: none"> ◆ Mr. Klever José Coral, Superintendent of Innovation, Coplacana, Brazil • Q&A and Open Discussion <p>Remarks by Chair</p>	
01:00 pm	Lunch	

2:00 pm **Session-II: Sharing Best Practices in Agricultural Cooperatives from Cooperatives in Different Countries**

Chair: Prof. K.M. Maredia, Director of International Agriculture Programs, College of Agriculture and Natural Resources, MSU, USA

- **North American Experience**

- ◆ Mr. Douglas Dwight Chapin, Chairman, Board of Directors, Michigan Milk Producers Association, U.S.A.

- **Asia Experience**

- ◆ Mr. J.L. Chaminda, Chairman, Morawakkorala Tea Products Cooperative Society, Sri Lanka
- ◆ Ms. Sunita Nhemaphuki, Chairperson, Agro Organic Cooperative Ltd and Vice President, NAEMA, Nepal
- ◆ Dr. Romi Novriadi, Secretary General, Indonesia Aquaculture Society, Indonesia
- ◆ Dr. C.S.P. Gowda, Director General, Centre on Integrated Rural Development for Asia and the Pacific, Bangladesh

- **Q&A and Open Discussion**

Remarks by Chair

3:30 pm **Tea/Coffee Break**

4:00 pm **Session-III: Experiences of Cooperatives in India**

Chair: Dr. W.S. Lakra, Former Director & VC, ICAR-CIFE, Mumbai and Secretary, NAAS

- **Milk Cooperative**

- ◆ Dr. Jignesh Shah, Deputy General Manager (SA&P Group), NDDB, Anand

- **Horticulture Cooperative**

- ◆ Dr. Balraj Singh, Former VC, Sri Karan Narendra Agriculture University, Jobner

- **Sugar Cooperative**

- ◆ Dr. Prakash Naiknavare, Managing Director, National Federation of Co-operative Sugar Factories Ltd.

- **Fisheries Cooperative**

- ◆ Sh. Ashok Pillai, Former Executive Director, National Cooperative Development Corporation, New Delhi
- ◆ Dr. Arpita Sharma, Principal Scientist & Head, Fisheries Economics, Extension & Statistics Division, ICAR- Central Institute of Fisheries Education, Mumbai

- **Q&A and Open Discussion**

Remarks by Chair

Day 2: Tuesday, December 16, 2025

- 10:00 am **Session-IV: Experiences of Cooperatives in India**
- Chair: Mr. Peter Lemmer**, Executive Vice President, Chief Legal Counsel, Green Stone Farm Credit Services, U.S.A.
- **Fertilizer Cooperative**
 - ◆ Sh. Tarun Bhargava, Sr. General Manager (Coop. Dev.), Indian Farmers Fertilizer Cooperative, New Delhi
 - **Marketing Cooperative**
 - ◆ Sh. Ram Iqbal Singh, Working Chairman, National Federation of Farmers' Procurement, Processing and Retailing Cooperatives of India Ltd, New Delhi
 - **Finance and Marketing Cooperative**
 - ◆ Dr. A. Praveen Reddy, Mulkanoor Cooperative Rural Credit and Marketing Society Ltd., Telangana
 - **Agricultural Cooperative Societies**
 - ◆ Dr. Anjani Kumar, Senior Research Fellow, International Food Policy Research Institute, New Delhi
 - **Q&A and Open Discussion**
- Remarks by Chair**
-

11:10 am **Tea/Coffee Break**

- 11:30 am **Experience Sharing from the Professional Association of Agricultural Societies**
- Chair: Dr. P.K. Joshi** (Vice-President, NAAS) and **Dr. W. S. Lakra** (Secretary, NAAS)
- Crop and Horticulture improvement
 - Animal and Fisheries Sciences
 - Natural Resource Management and Agricultural Engineering
 - Social Sciences
-

01:00 pm Presentation and Open Discussion of PAAS Breakout Groups and Cooperatives

1:30 pm **Lunch**

2:30 pm **Panel Discussion on Way Forward: Cooperatives to Strengthen Rural Development**

Chair: Dr. Mohan Kumar Mishra, Former Secretary, National Council for Cooperative Training, New Delhi

Moderator: Prof. K.M. Maredia, Director of International Programs, College of Agriculture and Natural Resources, MSU, USA

• **Panelists:**

- ◆ Mr. Douglas Dwight Chapin, Chairman, Board of Directors, Michigan Milk Producers Association, U.S.A.
- ◆ Sh. Daya Shankar Singh, President, Integrated Rural & Agriculture Development Association, Lucknow
- ◆ Ms. Maria Victoria S. Anahaw, Manager, Caviteño Isabelino Multipurpose Cooperative, Philippines
- ◆ Dr. Mohan Kumar Mishra, Former Secretary, National Council for Cooperative Training, New Delhi
- ◆ Mr. Binay Agarwal, Deputy Chief Executive Officer, InVivo Group, France
- ◆ Dr. Smita Sirohi, ICAR National Professor, MS Swaminathan Chair, NIAP, New Delhi
- ◆ Mr. Klever José Coral, Superintendent of Innovation, Coplacana, Brazil
- ◆ Dr. D.A. Shukla, Principal and Dean, Mansinhbhai Institute of Dairy and Food Technology, Mehsana, Gujarat

General Discussion

Remarks by Chair

4:30 pm Closing Remarks

5:00 pm Vote of thanks

5:05 pm **Tea/Coffee**

List of Participants

International Participants

1. Prof. K.M. Maredia, Director of International Programs, College of Agriculture and Natural Resources, Michigan State University, USA
2. Mr. Binay Agarwal, Deputy Chief Executive Officer (CEO), InVivo Group, 83 Avenue de la Grande Armée, 75116 Paris, France
3. Ms. Sarah Miracle S. Anahaw, Coordinator and Product Developer, Magleticia, Echague, Isabela 3309, Philippines
4. Ms. Rochelle E. Maala, Marketing Consultant, Santiago, Isabela 3311, Philippines
5. Ms. Maria Victoria S. Anahaw, Manager, Caviteño Isabelino Multipurpose Cooperative (CAISA MPC), Magleticia, Echague, Isabela, Region 2, Philippines
6. Mr. Douglas Dwight Chapin, Chairman, Board of Directors, Michigan Milk Producers Association, 41310 Bridge Street, P.O. Box 8002, Novi, MI 48376, U.S.A.
7. Mr. Peter Lemmer, Executive Vice President, Chief Legal Counsel, Green Stone Farm Credit Services, 3515 West Rd., East Lansing, MI 48823, U.S.A.
8. Mr. Klever José Coral, Superintendent of Innovation, Coplacana, Brazil
9. Dr. Chandra Shekara Putte Gowda, Director General, Centre on Integrated Rural Development for Asia and the Pacific (CIRDAP), Chameli House, 17 Topkhana Road, Dhaka 1000, Bangladesh
10. Dr. Honest Kessy, General Manager, Kilimanjaro Native Cooperative Union, Tanzania
11. Mr. Jasing Liyanegge Chaminda, Chairman, Morawakkorala Tea Products Cooperative Society, Deniyaya Road Kotapola, Sri Lanka
12. Ms. Sunita Nhemaphuki, Chairperson, Agro Organic Cooperative Ltd, Vice President, NAEMA, Kathmandu, Nepal
13. Dr. Romi Novriadi, Secretary General, Indonesia Aquaculture Society, Jakarta, Indonesia

Indian Participants

14. Dr. M.L. Jat, Director General, ICAR, New Delhi
15. Dr. P.K. Joshi, Vice-president, National Academy of Agricultural Sciences (NAAS), New Delhi
16. Dr. W.S. Lakra, Former Secretary, National Academy of Agricultural Sciences (NAAS), New Delhi
17. Dr. P.N. Bahl, Former DDG, ICAR, New Delhi
18. Dr. Gyanendra Kumar Gaur, Assistant Director General (AP&B), ICAR, New Delhi
19. Dr. Ch. Srinivasa Rao, Director, Indian Agricultural Research Institute (IARI), New Delhi
20. Dr. (Ms.) Rashmi Aggarwal, Former Joint Director (Academic), IARI, New Delhi

21. Dr. Subhash Babu, Senior Scientist, Division of Agronomy, IARI, New Delhi
22. Dr. (Ms.) Haritha Bollinedi, Senior Scientist, Division of Genetics, IARI, New Delhi
23. Dr. Usha Das, Scientist (Ag. Extn.), IARI, New Delhi
24. Dr. T.K. Das, Professor, Division of Agronomy, IARI, New Delhi
25. Dr. M.K. Dhillon, Head, Division of Entomology, IARI, New Delhi
26. Dr. H.K. Dikshit, Principal Scientist, Division of Genetics, IARI, New Delhi
27. Dr. T.K. Dutta, Senior Scientist, Division of Nematology, IARI, New Delhi
28. Dr. Maina Kumari, Scientist (Ag. Extn.), IARI, New Delhi
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