Reducing research-extension gap for sustainable agricultural development: The role of networks

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Presentation objectives

- Provide a regional perspective on the research-extension gap in Asia-Pacific
- Offer opportunities for university-based extension to reduce the research-extension gap
- Share the role of regional networks in reducing the research-extension gap
- Highlight the areas of how regional networks can better support university-based education and research-extension systems

Research-extension gaps

- Change in paradigm: From one-way communication to interaction with various actors
- Translating research outcomes into higher productivity and improved food security remains a challenge
- ICT does not benefit everyone
- Lack of (or poor quality) data
- Huge gaps in capacity
- Budget deficits, privatization of agricultural extension
- Decentralization
- Limited collaboration

Opportunities for university-based extension to reduce the research-extension gaps

Adapting to a new research-extension environment

- Paradigm shift from input-intensive to knowledge-intensive agriculture, agriculture as an industry not an issue of subsistence, treating farmers as clients

Creating space for research-extension interface

- Extension and outreach can be built into research projects to ensure a research-to-adoption continuum instead of research and extension working as separate entities.

Engaging in farmers' fields

- Researchers/students to be extension agents, better assess farmers' needs and socioeconomic constraints, and to undertake adaptive and applied research.

Opportunities for university-based extension to reduce research-extension gaps

Enhancing quality of extension services

- Capacity development - the knowledge of extension agents must keep ahead of that of their clientele
- Focus on knowledge brokering

Mobilizing resources

- Innovative funding mechanisms
- Advocacy for increased public and private investment in research and extension

Engaging with other stakeholders

- Private sector, NGOs
- Advocacy, sharing of knowledge and new ideas, market analysis

Opportunities for university-based extension to reduce research-extension gaps

Improving the efficiency and cost-effectiveness of the delivery of extension services through ICT

- Participation in developing and using ICT tools and models
- Training farmers in the use of ICT, thereby improving farmers' access to information, collection of data, communication

Supporting transformative learning and youth leadership development

- Not just academic skills, but intellectual, spiritual and emotional development to meet the needs of youth today
- Integration of agricultural education at all levels incl. school
- Making research profession gender affirmative

Opportunities for university-based extension to reduce research-extension gaps

Engaging in policy advocacy

- Help governments understand the needs of the research-extension system

Documenting evidence

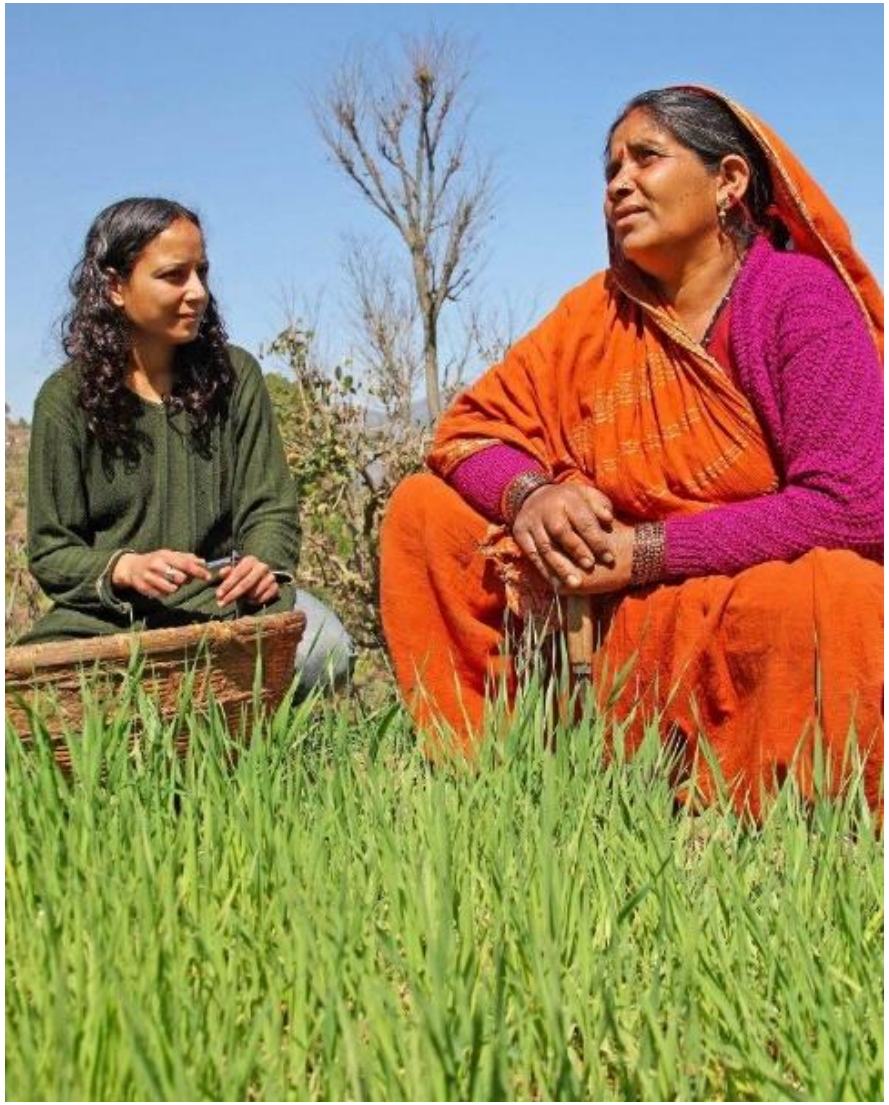
- Initiate studies on the impact of research and extension on agricultural growth

Participating in networks (regional, global)

- Opportunities for collaboration, knowledge sharing, learning

Regional network for extension services - APAEON

- The Asia Pacific Agricultural Extension and Outreach Network (APAEON) – UNCAPSA, FAO, APAARI, Dec 2014
- Aims to enhance agricultural research-extension linkages to harness research results for the benefit of small farmers.
- Includes government, international/regional organizations, CSOs (NGOs) and the private sector involved in rural advisory services, regulatory actions, ICT applications and other extension services (incl. universities)
- But also other networks working in strengthening agri-food systems (e.g. GFRAS, GFAR, APAARI, FARA)



Asia-Pacific Association of Agricultural Research Institutions (APAARI)

APAARI:

- voluntary
- membership-based
- self-mandated
- apolitical
- partnership focused

…working in the region since 1990

APAARI's members

- National agricultural research institutes and organizations
- **Higher education institutions**
- Inter-governmental agencies
- CGIAR and other international agricultural research centres
- International development organizations
- Civil society (NGOs and farmers' organizations)
- Global/regional/sub-regional fora

Vision:

- Strengthened research and innovations for sustainable development in Asia and the Pacific

Mission

- Promoting, coordinating and strengthening agriculture and agri-food research and innovation systems through partnerships and collaboration, capacity development and advocacy for sustainable agricultural development in Asia and the Pacific

APAARI membership

APAARI membership category

Regular (NARIs/NAROs):	21
Associate (CGIAR/IARCs):	26
Affiliate:	9
Reciprocal:	12
Total:	68

Sub-regional representation of NARS

South Asia	7
Southeast Asia*	**6**
East Asia	3
Australia and the Pacific	5
Total:	21

*Malaysia, Philippines, Thailand, Vietnam

CGIAR/IARCs

- AVRDC – The World Vegetable Center
- Bioversity International
- CABI UK
- Crops for the Future
- CIMMYT
- CIP
- ICARDA
- ICBA
- ICIMOD
- ICRAF
- ICRISAT
- IFPRI
- ILRI
- IRRI
- IWMI
- World Fish

Higher education

- Anand Agricultural University (India)
- Assam Agricultural University (India)
- **Asian Institute of Technology (Thailand)**
- Central Agricultural University (India)
- CSK Himachal Pradesh Krishi Vishvavidyalaya (India)
- Indian Agricultural Universities Association (IAUA)
- Junagadh Agricultural University (India)
- Kamdhenu University (India)
- Navsari Agricultural University (India)
- Papua New Guinea University of Technology
- SAAR Agriculture Centre (Bangladesh)
- Sam Higginbottom Institute of Agriculture Technology and Sciences (India)
- Sardarkrushinagar Dantiwada Agricultural University (India)
- Tamil Nadu Agricultural University
- University of Agricultural Sciences, Bangalore (India)
- University of Agricultural Sciences, Dharwad (India)
- **University Putra Malaysia (Malaysia)**
- Uttarakhand University of Horticulture and Forestry

Global, regional and sub-regional fora

- AARINENA (Jordan), **APAFRI (Malaysia), APSA (Thailand)**, CACAARI (Uzbekistan), FARA (Kenya), **NACA (Thailand)**
- **AFA (Philippines)**
- SPC (Fiji)
- GODAN

International partners

- FAO (TAP, E-agriculture)
- GFAR
- UNCAPSA

APAARI's work: Strategic Plan 2017-2022

Contributing to the sustainable transformation and development of agriculture and agri-food systems in the Asia-Pacific region

Connecting partners and stakeholders in the Asia-Pacific region to strengthen agriculture and agri-food research and innovation systems for sustainable agricultural development in Asia and the Pacific

Thematic areas

- Mobilization, management and use of natural resources for sustainability of AFS
- Analysis, strengthening and formulation of public policies and overarching regulatory frameworks to support the transformation and development of AFS
- Management of risks and uncertainties in the AFS
- Inclusive development and integration of value chains targeted at benefiting smallholders

Key programmes

- Knowledge management
- Capacity development
- Partnership and networking
- Advocacy

Cross-cutting areas

- Women and youth
- Foresight and visioning

APAARI governance and development

Role of APAARI in supporting university-based education and research-extension system

Knowledge management	• Dissemination of research findings • Access to databases with improved data for analysis and knowledge creation (e.g. IFPRI-ASTI project) • Access to knowledge-sharing and learning opportunities (through network resources) • Facilitation of university participation/engagement in policy dialogue and expert consultations • Access to ICT tools for young researchers for knowledge sharing and peer assistance
Partnership and networking	• Facilitation of technical cooperation for knowledge generation and technology transfer • Facilitation of engagement of universities in existing agri-food networks of APAARI partners • Facilitation of networking and collaboration between universities and other national, regional and global development partners
Capacity development	• Inclusion of university talents in the databases on human capacity to enhance the sharing of talent pool in the region • Capacity development of university leaders and research managers in monitoring, evaluation and impact pathway analysis • Development of skills and capacities of researchers in knowledge management, 'translational development', advocacy • Inclusion of university representatives in other regional and global capacity development programmes, including technical areas
Advocacy	• Assessment of return from investment in education, research and extension to inform policy makers • Using the data to attract investment in agricultural education • Improvement of the recognition of the role of agri-food research and innovation as a major driver of socio-economic development • Improvement of the voice and engagement of young researchers (women especially) in innovation processes, utilizing their ideas

Thank you!

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Asia-Pacific Association of Agricultural Research Institutions

APAARI

Regional overview of food security

- Many countries in the region met or exceeded the Millennium Development Goal (MDG) on hunger several years before the deadline.
- Progress in defeating hunger has slowed and we must pick up the pace.
- A new tool to measure food insecurity – Food Insecurity Experience Scale.
- The paradox of hunger and obesity side by side.
- Diets are shifting to more protein-rich foods, but that shift has consequences.
- More people are drinking milk and buying dairy products, but not everyone is benefitting.
- Meeting the challenges of feeding a hungry region by 2050 quite literally means putting more money where our mouths are.

Source: Asia and the Pacific, Regional Overview of Food Insecurity, Investing in a Zero Hunger Generation, FAO 2016

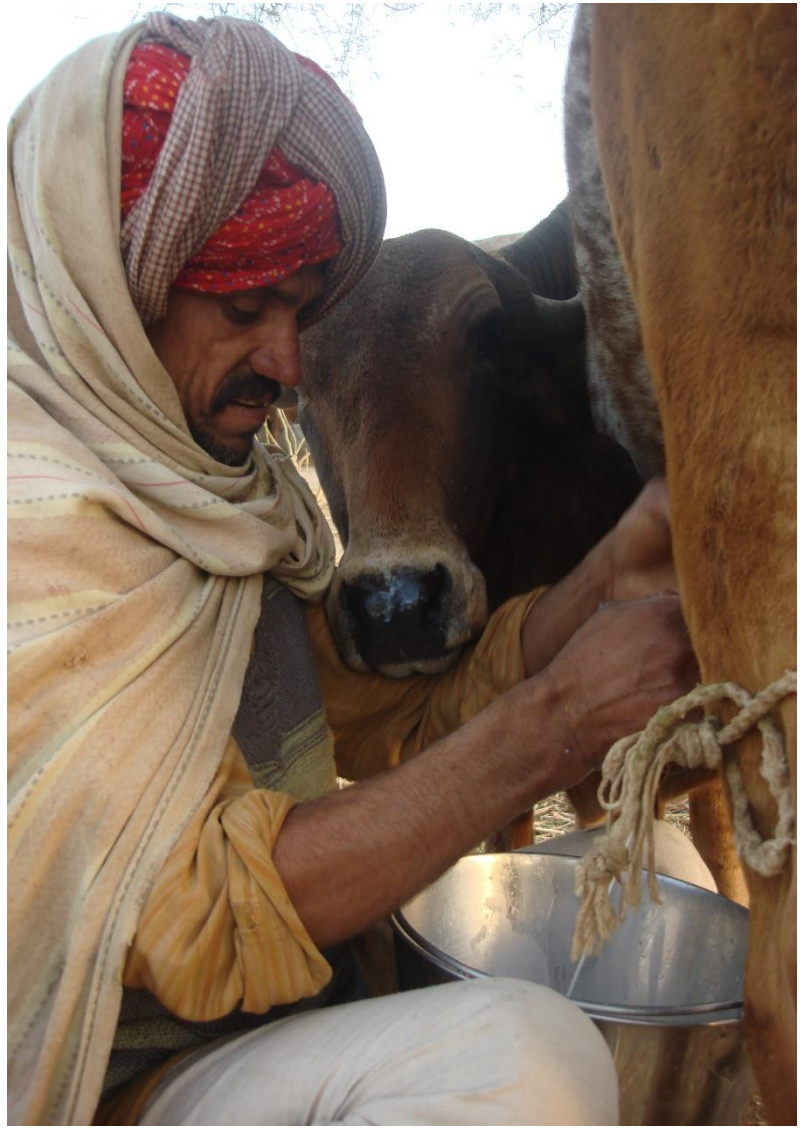
Small-scale farming matters

- Agricultural growth reduces poverty – increases employment, real wages for workers, profits for net producers, lowers prices for consumers. But the results are mixed.
- Some 80% of global food is produced by small farmers
- But small-scale farming is being challenged – increasing environmental degradation, adverse impacts of climate change, market risks…

…. while expected to:

- produce more food on existing land
- contribute to environmental preservation to produce more sustainably
- create new economic opportunities for youth
- reduce food loss and waste
- support shift towards healthier diets

- Diverse set of skills, abilities and knowledge is required to make this possible
- More investment in agricultural research and extension is critical to meet the increasing demands upon agriculture and ensure food sustainability



Different research-extension models

Indonesia

- R&D programme of IAARD – more efficient and effective technologies
- Focus on research with technology components, **technology identification and assessment** activities, design of development models and extension applying agribusiness practices
- 33 AIATs across all Indonesian provinces
- University extension – IPB
- Farmer-managed extension

Malaysia

- MARDI – creating conductive environment to stimulate creativity and innovation, enhance the **commercialization of R&D** and develop innovative products, expand mechanization, automation and effective technology transfer to farmers
- Introduced the concept of R&D&C in agricultural development to take science to commercialization
- Establishment of “one-stop” centres with decentralized expertise
- Links with universities

Thailand

- DOA – crop production research ⇒ DOAE
- Emphasis on **Good Agricultural Practices (GAP)** in research-extension systems on food security and nutrition
- GAP Committee and inspectors (GAP evaluation, pilots, training)
- National (followed by regional, provincial and district) workshop once a year, extensionists and researchers discuss policies and technologies to be transferred to farmers
- Links with universities

Role of regional networks in reducing research-extension gap

Knowledge management

- Promote processes and tools for knowledge sharing, learning and collaboration (including ICT) in agri-food systems
- Facilitate participation/engagement of public, private, community sectors to enable faster technology and policy development
- Share data, analysis, solutions and experiences
- Improve scientific data to make it available for analysis and knowledge creation

Partnership and networking

- Facilitate technical cooperation for effective resource mobilization, policy support, knowledge generation and technology transfer
- Facilitate public-private-community partnerships to improve adaptation and application of agricultural technologies and innovations
- Promote engagement of national stakeholders in existing agri-food networks
- Facilitate networking and collaboration between national, regional and global development partners for collective action

Women and youth

Engagement | Participation | Opportunities | Voice | Representation

Research | Policy making | Extension | Dialogue | Knowledge sharing | Capacity development

Role of regional networks in reducing research-extension gap

Capacity development	• Strengthen institutional capacity for the development of agri-food research and innovation systems • Strengthen databases on human capacity to enhance sharing of talent pool in the region • Improve capacity of leaders and managers in monitoring, evaluation and impact pathway analysis • Develop skills and capacities in knowledge management, management/leadership, 'translational development', advocacy, as well as technical areas • Facilitate participation of primary stakeholders (incl. disadvantaged ones) in regional/global programmes
Advocacy	• Increase political recognition of the role of agri-food research and innovation as a major driver of socio-economic development • Improve the voice and engagement of disadvantaged stakeholders involved in agri-food systems • Enhance understanding of policymakers on the need, scope and return of investment • Assess the status, trends and priority for investment, use the data and information to attract investment • Enhance understanding of national governments on capacity development requirements of small farmers • Assess and adopt innovative funding and partnership mechanisms

Women and youth

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APAARI's key achievements in the last three years

- Recognized value added of APAARI as a regional knowledge facilitator within AFRIS Community (policy dialogue, expert consultations, capacity development)
- Member expansion (65 members to date)
- Increased resources – Australia main partner
- Knowledge Management and Agricultural Biotechnology – two main programmes of APAARI
- Two collaborative projects with FAO – TAP and E-agriculture
- One project in the pipeline – IFPRI/ASTI
- A member of the Steering Committee of TAP, GFAR
- Contribution to the global consultative process (GCARD 2 and 3)
- Leading the development of a proposal on the mobilization of investment in AFRIS
- APAARI Vision 2030 to respond to changing needs
- New Strategic Plan 2017-2020 to guide APAARI's work and its role in global fora

APAARI's key activities in the last four years

- Expert Consultation on Successful Agri-Food Innovations in Asia and the Pacific, November 2016, Taichung City, Chinese Taipei
- Consultations on the development of APAARI Strategic Plan 2017-2022, throughout 2016
- Reviewing and renewing APAARI Vision 2025, throughout 2015
- High Level Policy Dialogue on Investment in Agricultural Research (and Innovations) in Asia-Pacific Region, December, 2015, Bangkok, Thailand
- Development of Communication Strategies for Adoption of Agri-biotechnology in Asia, September 2015, Chang Rai, Thailand
- Capacity Development on Monitoring and Evaluation Towards Measuring Outcomes and Impacts, August 2015, Kula Lumpur, Malaysia
- The Launch of Asia-Pacific Agricultural Extension and Outreach Network (APAEON) with FAO and UNCAPSA, December 2014, Bangkok, Thailand
- Expert Consultation on Strengthening Linkages between Research and Extension to Promote Food and Nutrition Security, December, 2013, Bangkok, Thailand
- NARS-CGIAR Interactive Session for Strengthening Partnership in South Asia, October 2013, Islamabad, Pakistan
- Foresight and Future Pathways of Agricultural Research through Youth, 1-2 March 2013, New Delhi, India