



Developing inclusive, safe vegetable value chains:

From analysis to intervention in Vietnam



Context and Market situation

- Moc Chau (800m) can grow temperate vegetables in Summer: Too hot in Hanoi
- Good road (200km) to Hanoi – 4 hours
- Adequate arable land (40,000 Ha)
- Existing vegetable industry (1000Ha)
- Market will pay for **accredited safe** *but...*
 - Not connected to markets in Hanoi
 - Pesticide residues, variable supply, no market focus
 - **Low household income**



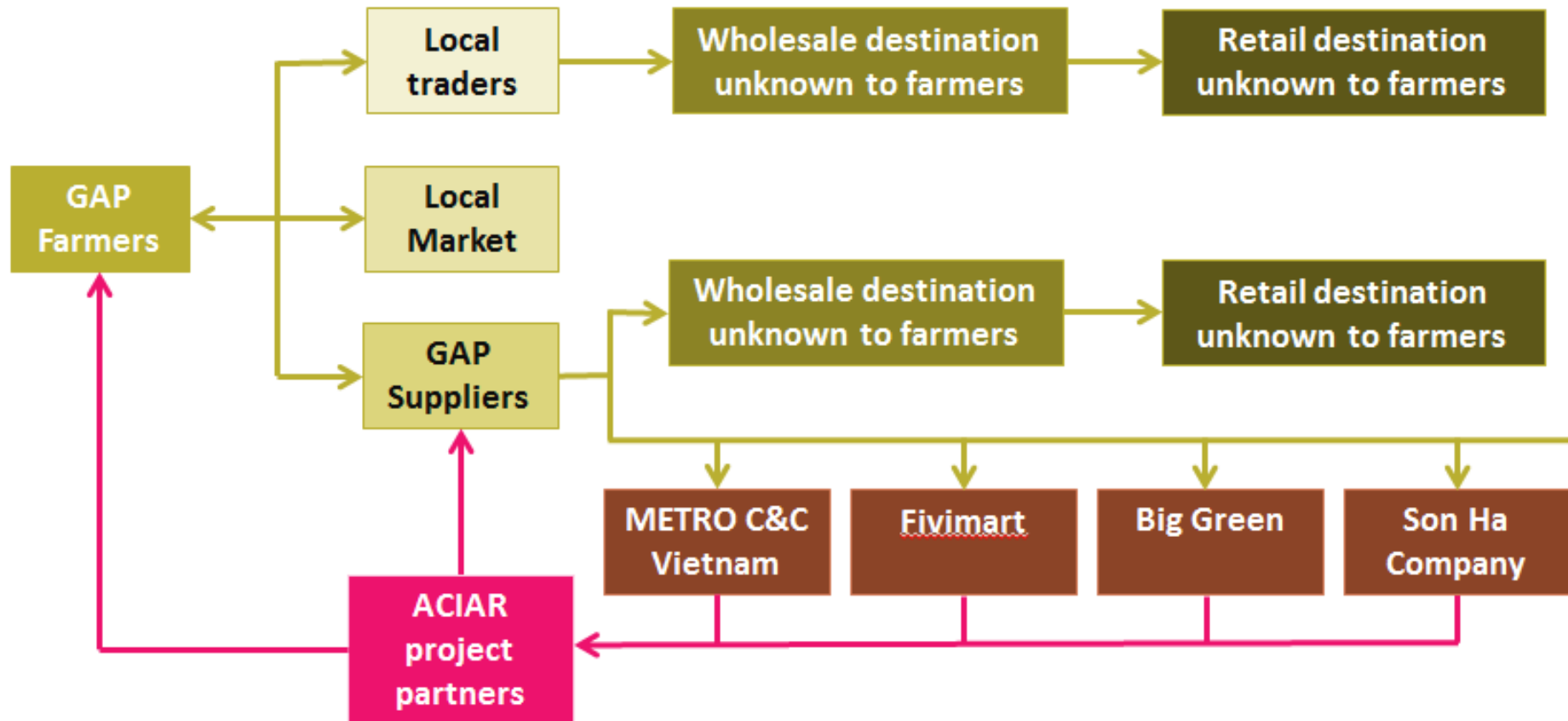
Supply chain *before* intervention



- Limited cooperation within the supply chain
- Limited knowledge exchange between members



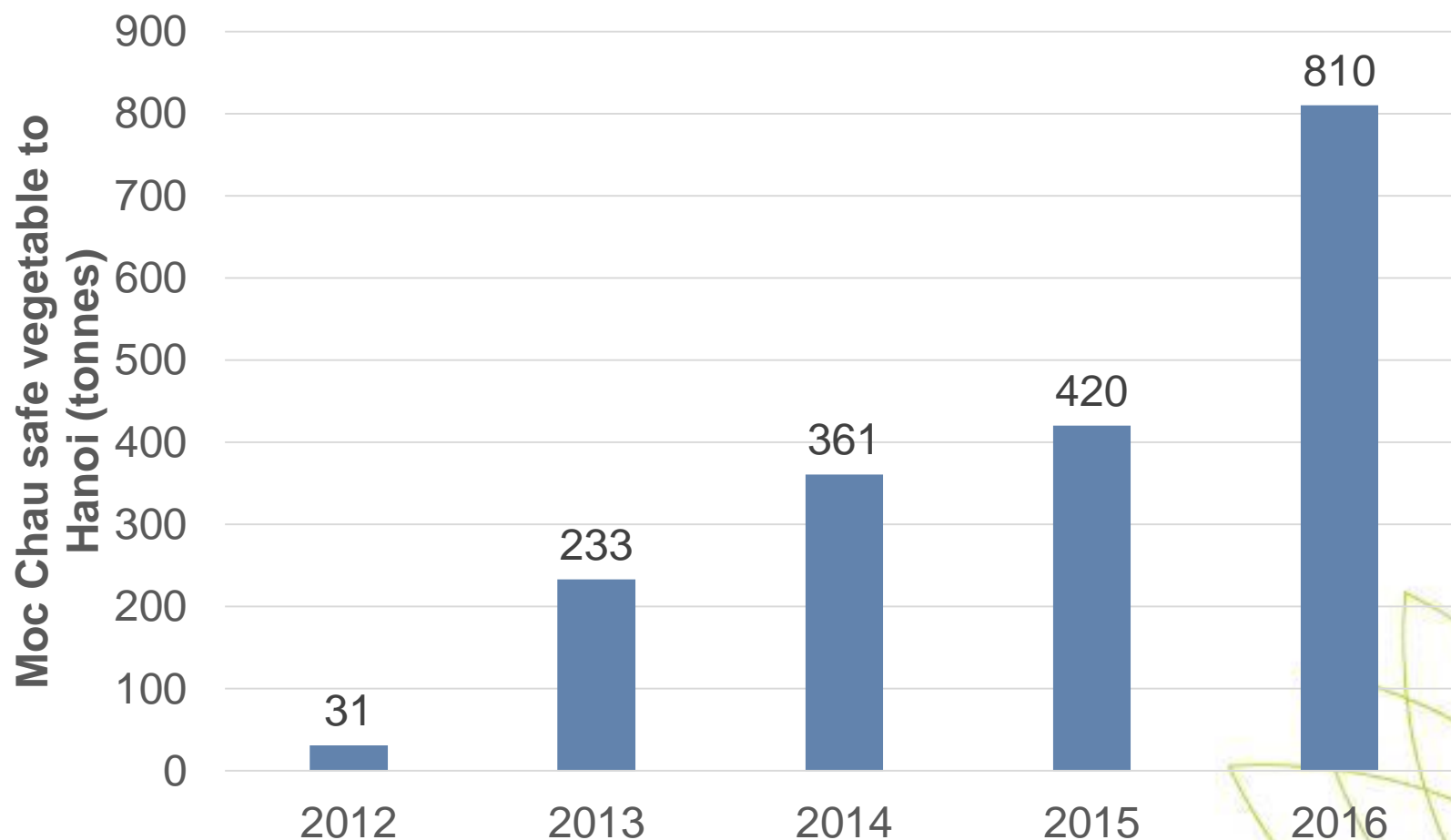
Value chain *after* intervention



■ **Cooperation and communication**



Vegetable supply to Hanoi from Moc Chau ahr applied horticultural research





Business case for safe vegetables: Vietnam

Production system	Net income M VND (per ha per yr)	AUD equivalent (per ha per yr)
Traditional household income: Tu Nhien village	120	\$7,560
Safe vegetables: Tu Nhien village	300 (150% more income)	\$18,900
Rice	20 (or less)	\$1,260
Maize	20 (or less)	\$1,260





Economic potential of safe vegetables

- **Baseline Household income**: (average farm size of 1092 m², per year)
 - 11.6 million VND (\$695) for the Tu Nhien village
 - 8.4 million VND (\$503) for the An Thai village
- **With safe vegetables**: In 2015, the average income from high-quality vegetables in the Tu Nhien village was **300 million VND or about \$18,000** per ha per year.
- (Compare to maize or rice: 20 million VND (\$1260) per ha per year)
- **New household income**: (average farm size of 1092 m², per year)
 - **33 million VND or about \$2,000 per hh**
 - **Increase of 184 - 290%!!**



Project staff at Moc Chau, Vietnam





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Improved plant establishment



2011: Raising Green lollo lettuce seedlings on a seed bed



2013: Training farmers to use foam trays to raise seedlings



Composting a necessity for food safety



2011: Farmers in An Thai applying fresh manure directly onto their crops



2012: Training farmers in An Thai to how to make compost





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GAP training, auditing and certification



- Each farmer is visited once every 2 weeks by an agronomist
- GAP implementation ensures food safety at farmer and supplier level
- Continuous monitoring of GAP standard of qualified agronomist & QA staff is required





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Improved post-harvest handling



2012: Load pickup of local vegetable trader. Sometimes vegetables are standing along the road for hours waiting in the sun



2013: Products packed for Fivimart in crates and transported to Hanoi during the night



In-store marketing



Leaflets, posters and logo for market display





Value chain interventions

Improving vegetable quality, productivity and competitiveness

- Improved vegetable varieties and basic agronomy
- Safe and effective use of pesticides
- Composting and nutrient management
- Reducing post-harvest losses – harvest time, crates, packaging
- Production intensification – seedling establishment, protected cropping, plastic mulching and irrigation
- **Competitive options for peak winter season production**





Value chain interventions

Quality assurance, trust and market access

- Development and adoption of GAP production protocols
- Record keeping and bookkeeping
- Safe Vegetable Certification – basic accredited quality assurance
- Certified trademark and branding – *Rau Moc Chau*
- **Traceability**
- **Validating chemical and microbiological levels**
- **Improving traditional wholesale markets**



Value chain interventions

Market research, development and marketing

- Market and consumer research
- Identifying target consumer and market segments – supermarkets, specialty safe vegetable stores, specialist wholesalers
- Developing and supporting a brand – safety, freshness, origin and provenance
- Building trust and information flows between growers and retailers
- Implementing production scheduling and market coordination
- **Maintaining and strengthening trust and compliance - participatory monitoring and evaluation of quality, MRLs and traceability**



Value chain interventions

Crowding in and scaling out

- Capacity building and training
- Knowledge and information sharing – within and between groups, amongst chain actors
- Technical support, develop institutional (Moc Chau and Son La DARD and PC) and market partnerships
- **Exist strategy to encourage group independence and self-reliance**
- **Strengthening internal group governance and processes**
- **Greater inclusion of ethnic minorities**
- **Develop fully self-supporting and self-scaling model – private sector and local government**



Wholesale markets – how to influence?



Reflections and learnings

- Be strategic
- Identify comparative and competitive advantages
- Target and focus for early success
- Start small, keep it simple
- Get the basics right first
- Identify change agents - champions and entrepreneurs
- Aim for early easy wins
- Demonstrate a proof of concept
- Add real-value with technical expertise and competence



Reflections and learnings

- Passionate multi-disciplinary research team
- Build trust with and between local grower and institutions and growers
- Measure and analyse performance
- Guide, support, don't enter the chain
- Learn together
- Have an exit strategy
- Systemic change takes time



A POVERTY-BUSTING AGRIBUSINESS MODEL

With the assistance of public-private partnerships, remote Vietnamese smallholder farmers prove they can reliably supply 'accredited safe' vegetables to modern chain stores, supermarkets and hypermarkets



KEY POINTS

- Smallholder vegetable producers in Vietnam's north-western highlands have pioneered an agribusiness model that is supplying Hanoi with accredited-safe vegetables.
- The new agribusiness model has been effective in reducing poverty.

BY DR GORDON ROGERS

Applied Horticultural Research

Farmers in Vietnam's poor north-western highland villages in the Moc Chau district have increased their net income by an average of 150% by supplying high-quality, 'accredited safe' vegetables to retail stores and urban consumers in Hanoi.

The agribusiness model adopted by the villagers was developed through public-private partnerships brokered by ACIAR, in a project led



Ms Luyen, leader of the Tu Nham village, with one of the trucks she bought to transport vegetables from Moc Chau to Hanoi.

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Myanmar Vegetable Industry

- 750,000 farmers → \$1.2B USD of vegetables on 392,000 Ha
- Vegetables are a primary source of income for 35% of farmers
- The key issues facing the Myanmar vegetable industry¹ are:
 - *Improving access to production knowledge*
 - *Safe and effective use of pesticides*
 - *Creating markets for high-quality vegetables*
 - *Reducing post-harvest losses*
 - *Developing a strong seed sector*



1. Roundtable meeting on vegetable in Myanmar Round Table “Developing Myanmar’s Vegetable Sector” November 20, 2014, Nay Pyi Taw



Myanmar: New ACIAR project (2017)

- The broad aim of the project is to assist Myanmar address key issues currently limiting the vegetable industry:
 - *Production knowledge*
 - *Safe and effective use of pesticides (GAP)*
 - *Identify markets for high-quality vegetables*
 - *Reduce post-harvest losses*
- Key drivers:
 - Engage with market
 - Adapt learning's from Vietnam project
 - Build Capacity





Objectives in Myanmar

1. **Study the vegetable market and value chains** to identify new market opportunities for smallholder vegetables.
2. **High quality, safe vegetables (GAP):** To develop and test sustainable and inclusive smallholder vegetable value-chain models and quality assurance system **that will transition into full Myanmar GAP.**
3. **Build capacity:** Vegetable extension, participatory research (agronomy, postharvest, pest and disease management, marketing, record keeping, technical support).

Link with other projects and agencies in Myanmar

Project will have a *market focus*

- **High quality and safe vegetable sector**

- Safe to eat / quality assurance.
- Brand development?
- Supermarkets (*City Mart* and *Capital*), food service (hotels, restaurants)

- **Main wholesale sector**

- Export potential

Why safe to eat?

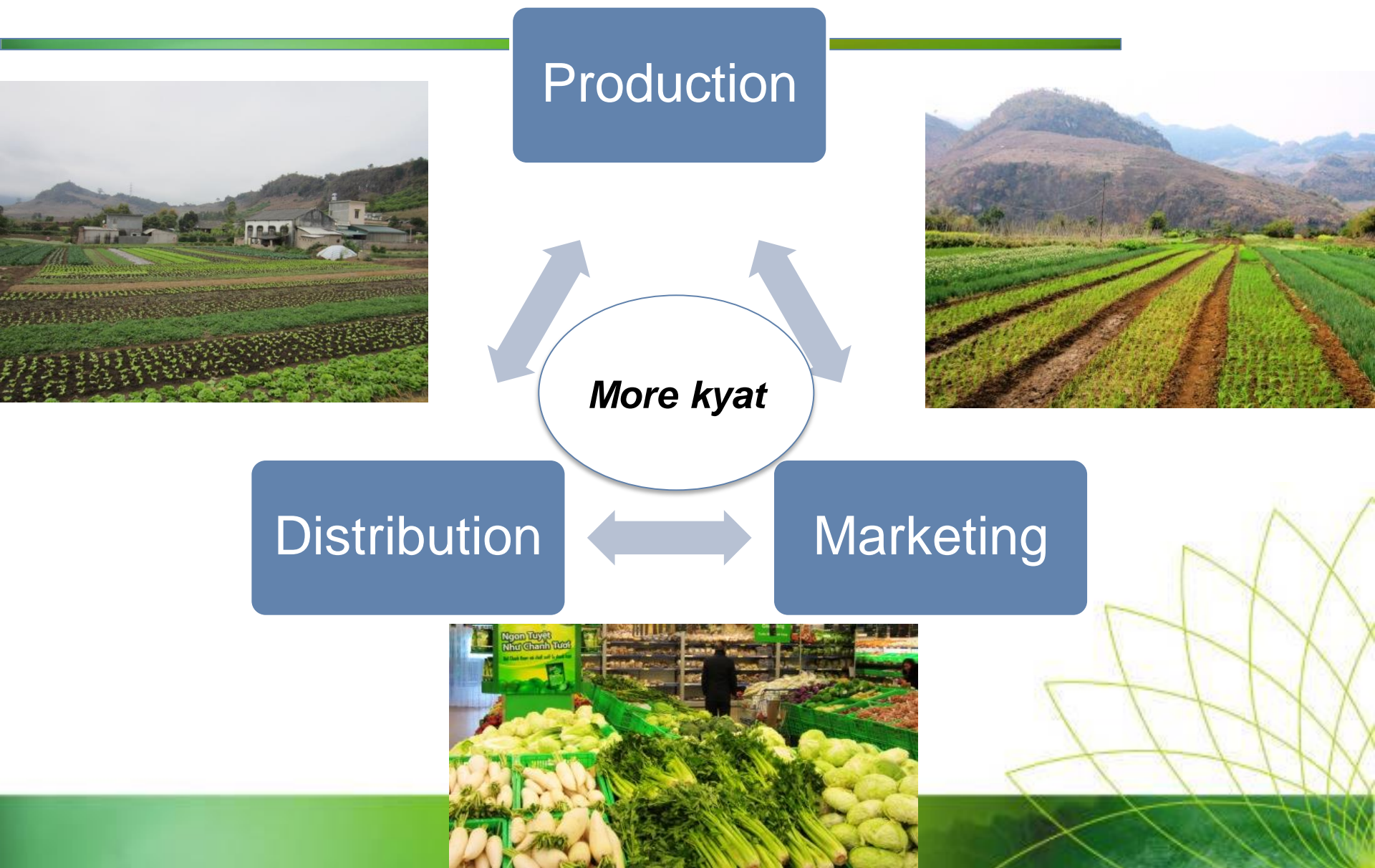
demand higher price for
safe, high quality
vegetables → financial
incentive to the farmer





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Work with the whole value chain



Production Region and crops

- **Inle Lake** region (upland region) with a focus on either ***Aungpan*** (rainy season only) or ***Pindeye*** (all year round production)
- **Temperate vegetables:** tomatoes, peppers, cabbage, cauliflower, beans, leafy vegetables.





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Project partners in Myanmar

- Yezin Agricultural University – ***value chain***
- Department of Agriculture (DOA) – ***GAP and extension***
- East West Seeds International – ***extension and training***
- Fresh Studio – ***agronomy, safe vegetable, market linkage***
- CIRAD – ***value chain, social sciences***
- University of Qld (Australia)– ***farmer group governance***
- Applied Horticultural Research (Australia) – ***agronomy, GAP***
- University of Sydney (Australia) – ***social sciences***



Thank you !