

Diversification to High-Value Crops in the Uplands of Vietnam

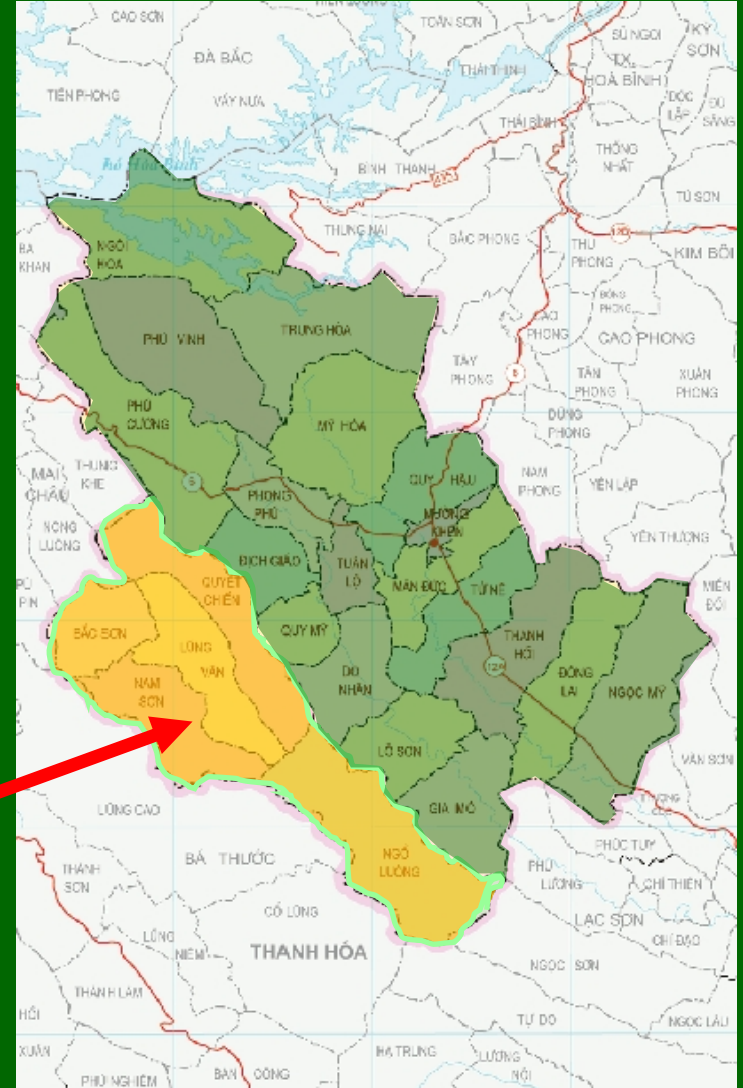
The Experience with Chayote in Tan Lac, Hoa Binh

Tiago Wandschneider and Tran Manh Chien (SADU)

**CRS/FAO Mekong Sub-Regional Workshop
“Linking Farmers to Markets”, Hanoi, 17-20 November 2008**



The 5 Target Upland Communes



Population and Poverty Data

Communes	Number of households	Population	% Ethnic Minority	% Poor Households
Quyet Chien	317	1,471	~ 100	30
Nam Son	323	1,530	~ 100	58
Lung Van	425	2,070	~ 100	30
Bac Son	283	1,180	~ 100	48
Ngo Luong	275	1,516	~ 100	55
Area	1,534	7,766	100	45

Agricultural Land Use

Communes	Agricultural Land (Ha)	Rice Area (Ha)	Maize Area (Ha)
Quyet Chien	343	60	n.a.
Nam Son	423	122	n.a.
Lung Van	468	155	n.a.
Bac Son	381	88	n.a.
Ngo Luong	435	63	n.a.
Total	2,050	488	1,298

Physical Access

Communes	Distance to Hoa Binh (km)	Access
Quyet Chien	50	Good
Nam Son	57	Average/Poor
Lung Van (weekly mkt.)	55	Good
Bac Son	63	Very poor
Ngo Luong	61	Average/Poor

Rationale for Diversification

1. Higher household incomes
2. Better land use
3. Reduced dependency on maize

Challenges Associated with Diversification

1. Investment requirements
2. Access to inputs
3. Skills
4. Labor requirements
5. Production risks
6. Marketing risks

The Chayote Production Pilot

Rationale for Product Selection

- Favorable local agro-climatic conditions
- Simple to grow
- Some local experience in production for own consumption
- Continued harvest over a seven-month period \Leftrightarrow labor-use/marketing risk/cash flow
- Market?

February – April 2007 (ETSP/SADU)

- Visit to Tam Dao
- Visit to Hanoi markets
- Analysis of profitability data w/ extension officers

November 2007 – April 2008 (DOST/Program 135)

- Mobilization of farmers
- Distribution of free seed and some fertilizer
- Training on production and post-harvest practices

Pilot Areas and Farmers

Location	Area (ha)	No. farmers
Quyet Chien	0.5	8
Ngo Luong	0.5	26
Nam Son	1	53
Bac Son	1	53
Lung Van	0.5	35
Total	3.5	175

The situation in April 2008 (Early Harvest)

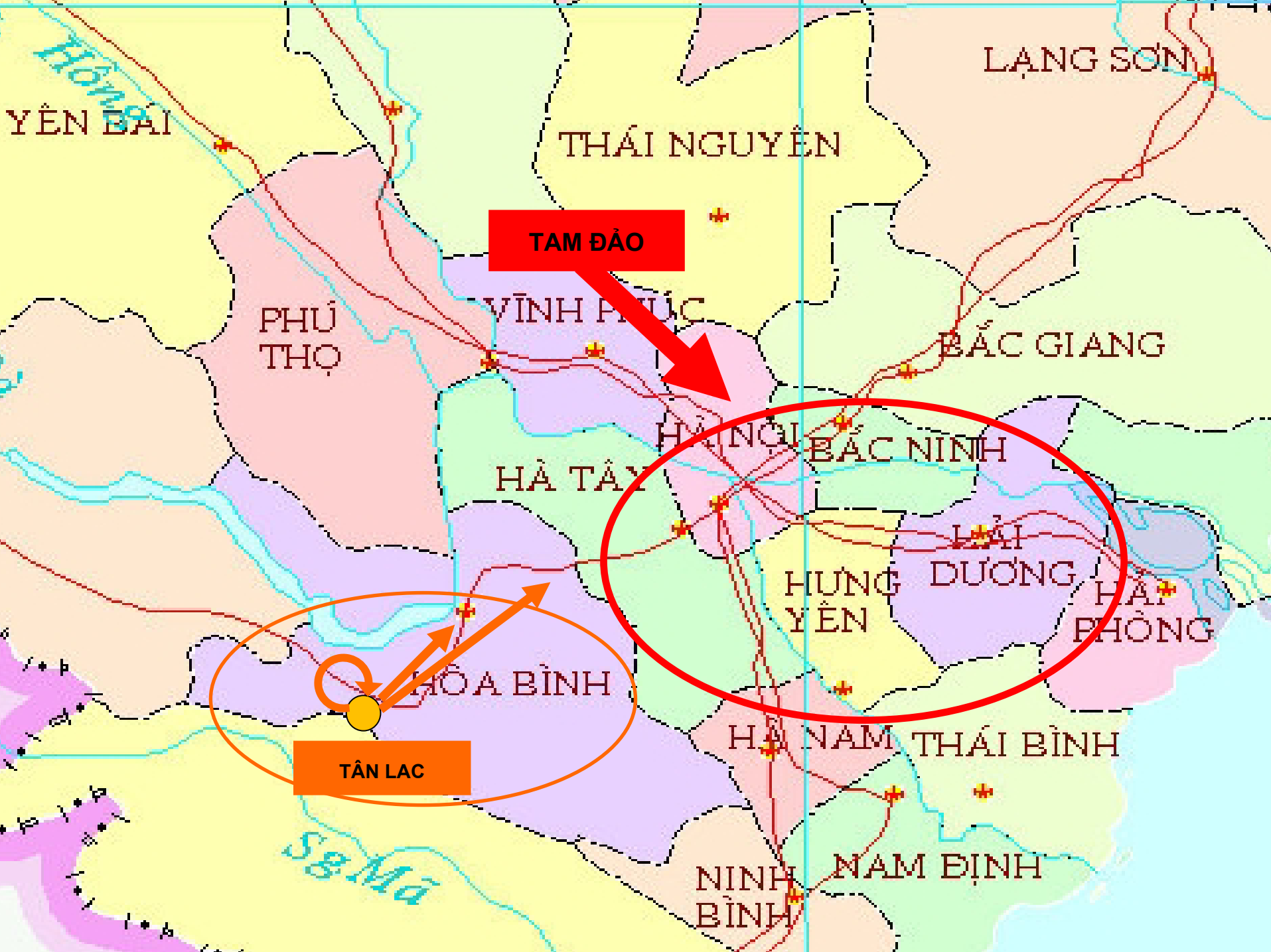
- Production problems in Lung Van (poor soils)
- Not possible to market the chayote from Bac Son (very difficult physical access)
- Farmers in the other three communes not harvesting/ selling chayote (lack of buyers)

SADU Interventions

(April – September 2008)

Marketing Strategy

- Focus on three communes
 - Collector (and Phuong Huyen - PH) as critical links
 - Target urban markets within the province
 - ✓ Small volumes for sale
 - ✓ Low transport cost
 - ✓ Freshness
- ⇒ Competitive advantage in terminal markets



LẠNG SƠN

THÁI NGUYÊN

YÊN BÁI

TAM ĐẢO

PHÚ THỌ

VĨNH PHÚC

BẮC GIANG

HÀ TÂY

HÀ NỘI

BẮC NINH

HƯNG DƯƠNG
YÊN

HẢI PHÒNG

HÒA BÌNH

TÂN LẠC

HÀ NAM THÁI BÌNH

NINH BÌNH

NAM ĐỊNH

Sông Mã

Sông Hồng

Target Areas and Farmers

Location	Area (ha)	No. farmers
Quyet Chien	0.5	8
Ngo Luong	0.5	26
Nam Son	0.83	53
Total	1.83	87

Facilitation of Market Linkages

- Mobilization of farmers for development of chayote trading business
- Provision of market information to “farmers-collectors”
- Market visits with “farmers-collectors”
- Mentoring of “farmers-collectors”

Promotion of Collective Action

- Farmer groups selling directly to retailers in Hoa Binh
- ⇒ Higher farm-gate prices

Cost of SADU Intervention

Cost Item	USD
Project staff salaries	1,500
Travel cost	500
Per diem for staff	100
Allowances for local staff	100
Accommodation	250
Other	50
Total	2,500

Outcomes (First Season)

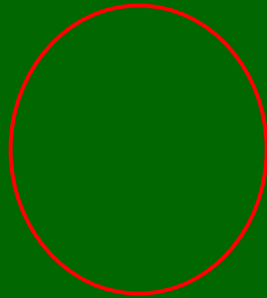
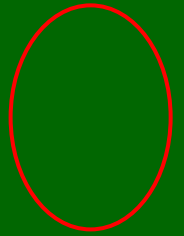
Production

- Estimated production = 33 tons
- Average yield = 18 tons/hectare
- 10 tons/ha < yield > 36 tons/ha
- Potential yield = 40 tons/ha

⇒ much scope for yield increases

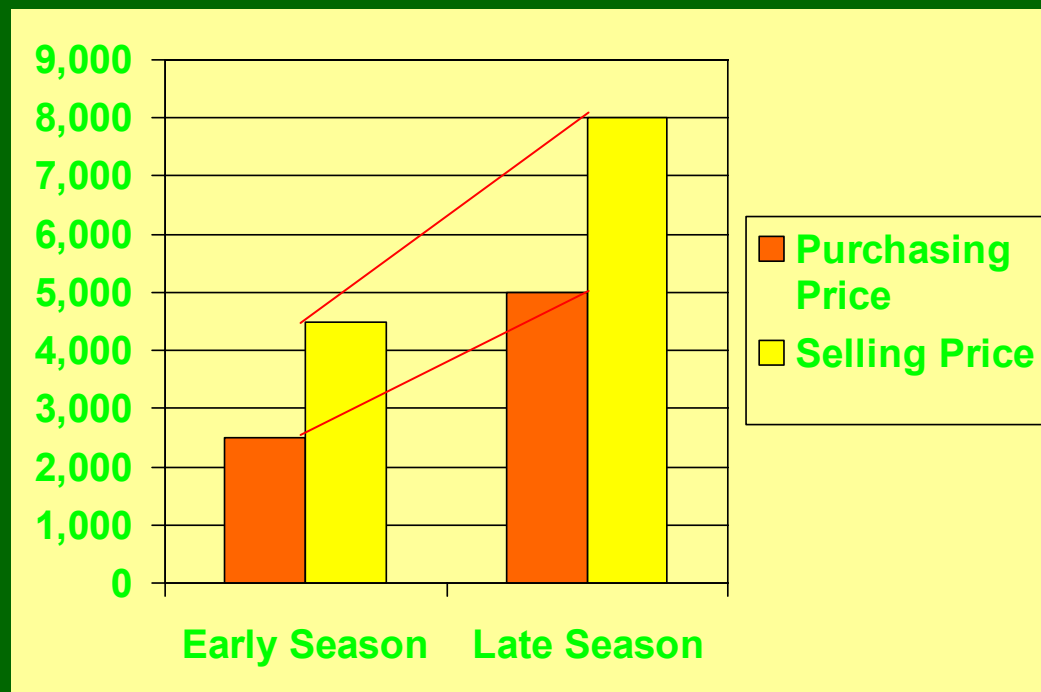
Sales of Chayote Leaves

	Volumes (tons)
5 collectors	11.6
Phuong Huyen	10
Other channels	~ 8
Total	29.6

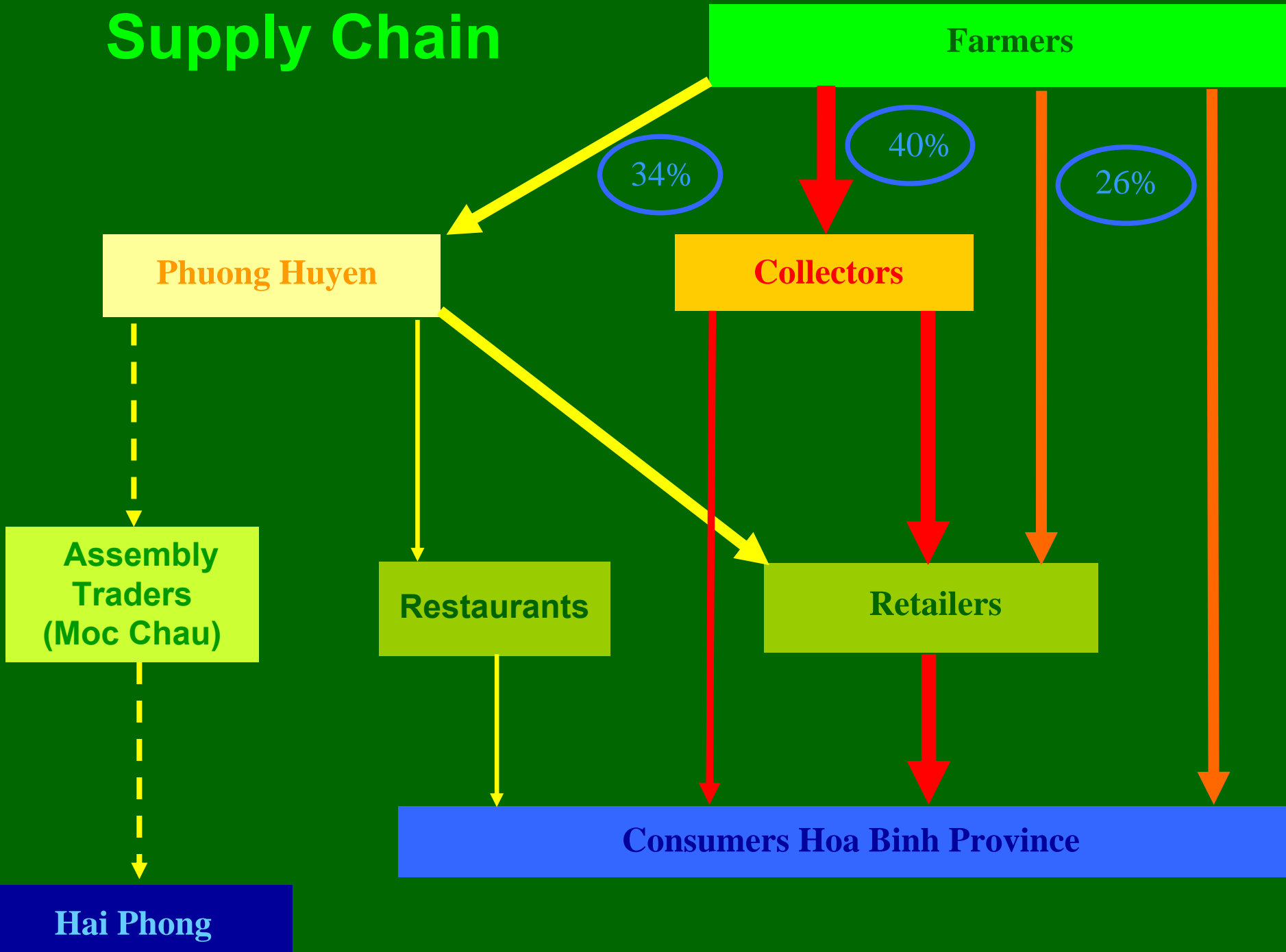


Prices (VND/kg)

	Apr - May	Jun - Jul	Sept - Nov
Selling prices	4,500 - 5,000	6,500 - 7,000	7,500 - 8,000
Farm-gate prices	2,500 - 3,000	3,000 - 3,500	4,000 - 5,000



Supply Chain



Margins

	VND/kg	% Retail Price
Farmer		
Farm-gate price (1)	4,500	45
Collector		
Marketing Costs (2)	1,210	
Fuel and oil	770	
Maintenance and repair of motorbike	300	
Other (string, drinks, market fee, etc)	140	
Selling price (3)	7,500	
Gross Margin (4) = (3 - 1)	3,000	30
Net margin (5) = (4 - 2)	1,790	18
Retailer		
Retail price (6)	10,000	
Gross Margin (7) = (6 - 3)	2,500	25

Other Outcomes

- Increased consumption of vegetables in production areas
- Improved access to production and consumption goods through the new collectors' network
- Improved access to markets for other commodities through the new collectors' network (e.g. bamboo shoots and green pumpkin)
- Regular and affordable supply of chayote in Hoa Binh

Impacts (First Season)

Net Incomes in the Area (1.83 ha)

	Chayote (1) USD	Maize (2) USD	(1) – (2) USD
Farmer	5,100 (aver. = 59)	3,000	2,100
Collectors	1,700	100	1,600
Total	6,800	3,100	3,700

Returns (Best Local Practice)

Chayote (good land)		Maize (two seasons, good land)	
Return on land*	Return on labour**	Return on land*	Return on labour**
9,400	75	2,700	95

* '000 VND/1,000 m²

** '000 VND/1,000 m²/man day

Returns (Best Practice Tam Dao)

Yield (ton/ha)	Price (VND/kg)	Return/Land (VND/1,000m²)
64	5,000 – 10,000	32 Million

The Way Forward

The Coming Season

- ⇒ Number of chayote growers ~ 200 - 250
- ⇒ Area ~ 6-8 hectares

Marketing strategy



- Diversify nearby target markets
- Target urban markets in the Red River Delta
- Target supermarkets in Hanoi (“safe chayote”)

Interventions (1)

1. Input supply

- ✓ develop fertilizer (“dau trau”) supply chain

2. Local marketing

- ✓ Expand the collectors’ network
- ✓ promote coordination amongst collectors and PH

3. Export of chayote

- ✓ Link collectors and PH to Moc Chau traders

Interventions (2)

4. Pilot the development of “safe chayote” supply chain

- ✓ Certify chayote in selected areas as “safe”
- ✓ Promote group marketing of “safe chayote”
- ✓ Link Phuong Huyen to Supermarkets

Farmer Groups

Farmers

Phuong Huyen

Collectors

**Assembly
Traders
(Moc Chau)**

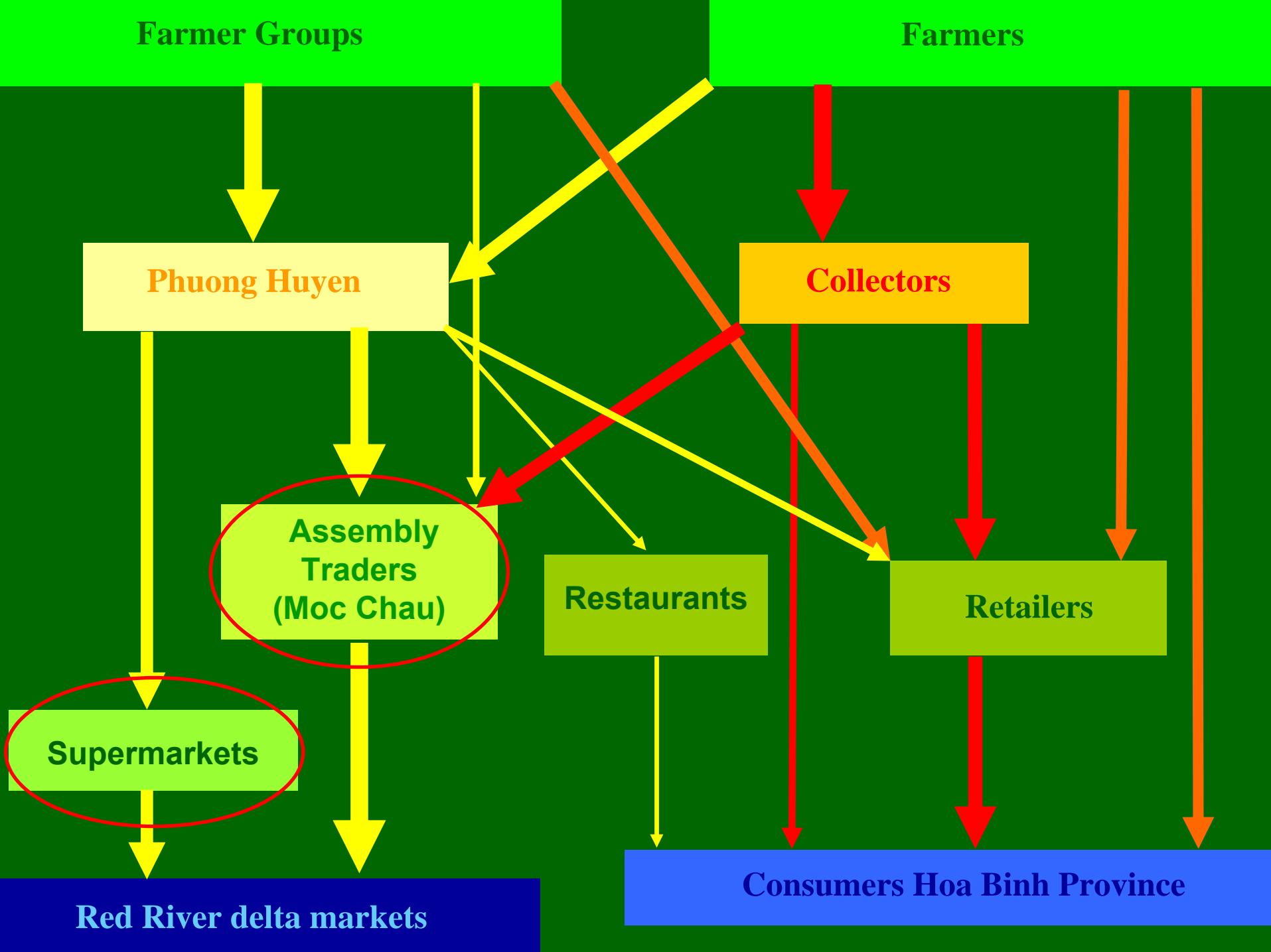
Restaurants

Retailers

Supermarkets

Red River delta markets

Consumers Hoa Binh Province



Expected Impacts by 2009 (6 ha)

Net Incomes in the Area

	Chayote (1) USD	Maize (2) USD	(1) – (2) USD
Farmer	24,000 (av. = 120)	9,800	14,200
Collectors	7,500	580	6,920
Total	31,500	10,380	21,120

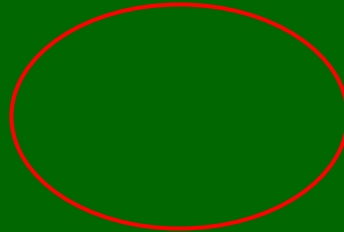
Lessons Learned

Diversification

- Long-term => basket of *feasible* high-value vegetable and spice crops (chayote +++)
- Need for a multi-faceted and flexible approach
 - ✓ Development of input supply chain
 - ✓ Development of production skills
 - ✓ Development of output market linkages
 - ✓ Development of collective action
 - ✓ Credit?

Target Markets

- Provincial markets can play a very important role during the initial stages
- Success in more distant, larger urban markets is essential for subsequent development of production at scale



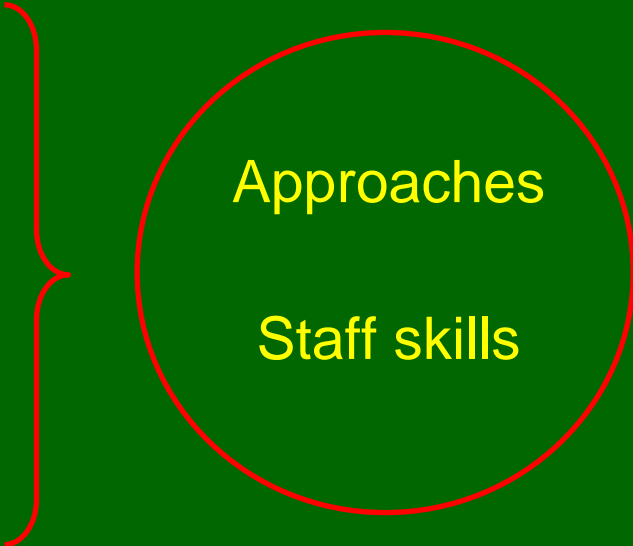
Government (1)

- Provincial and district agencies played an important role
 - ✓ Mobilization of farmers
 - ✓ Provision of subsidized seed and fertilizer
 - ✓ Training of farmers on production and post-harvest practices

Government (2)

- Local agencies in Hoa Binh (and other upland areas?) are currently unable to promote successful, market-oriented diversification
 - ✓ Working procedures: lack of **flexibility**; emphasis on discrete activities rather than **processes**; **top-down**
 - ✓ Emphasis on **delivery/subsidy** rather than facilitation of **market linkages/market development**
 - ✓ Not **pro-active** enough (e.g. piloting of new vegetable crops)

NGOs/Donors

- Budgets are not the most essential input (Paris Declaration?)
 - Key inputs...
 - ✓ Technical advice
 - ✓ Mentoring
 - ✓ Training
 - ✓ Stakeholder linkage
- 
- A diagram illustrating the relationship between key inputs and outcomes. On the left, a list of four key inputs is shown: 'Technical advice', 'Mentoring', 'Training', and 'Stakeholder linkage'. Each item is preceded by a green checkmark. A large red curly bracket on the right side of this list groups all four items together. To the right of the bracket is a large red circle containing two lines of text: 'Approaches' and 'Staff skills', both in yellow. This visualizes that the combination of these four inputs leads to the development of approaches and staff skills.