



Phongsaly Cardamom Cross Border Value Chain Study

Thiphavong Boupcha

18/09/2015

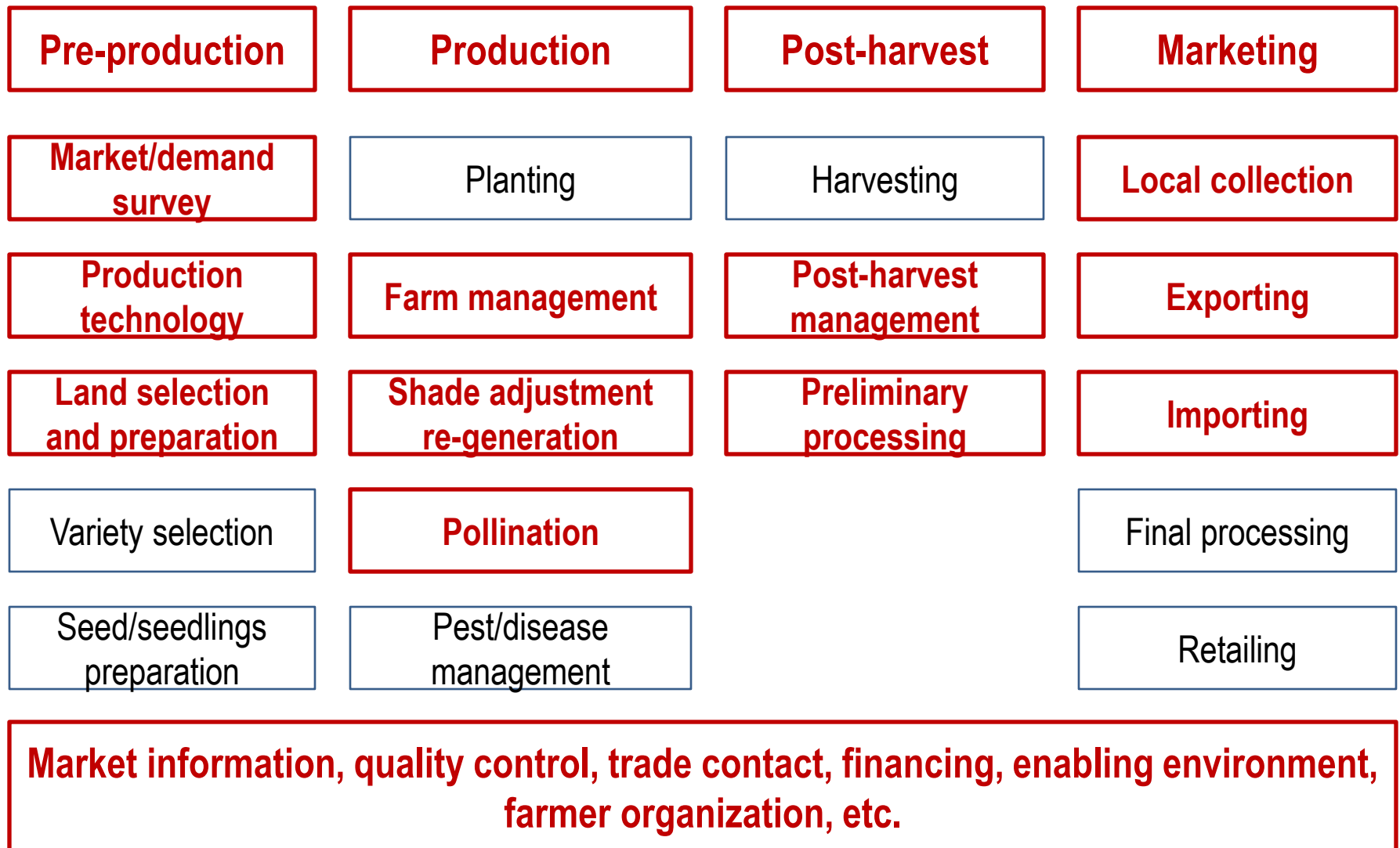
- Introduction
- Key findings
- Preliminary recommendations



- In China, use of medicinal cardamom goes back 1300 years. More than 100 Chinese medicines use it as a main component to treat stomach-aches, constipation and other digestion problems. 82% is Guangdong variety. Other cheap varieties are used for cuisine, etc.
- In Phongsaly province, cardamom cultivation started in early 1980s. Three main varieties: Guangdong, Paksong and wild. About 17,942 households (50% of total) cultivate cardamom on about 5,200 ha. In 2014, value of cardamom production was estimated at US\$ 40m.
- Cultivation of Guangdong and Paksong cardamom has advantages over upland rice and maize. Phongsaly cardamom production is small-scale without any collective action on production and marketing. Understanding of cardamom agronomy is inadequate.
- Dry Guangdong cardamom price increased from about 100,000 kip/kg (2011), to 270,000 kip/kg (2012), to 370,000 kip/kg (2013), to 450,000 kip/kg (2014) while prices for Paksong and wild varieties have not changed much. No domestic markets reported.

- The study aimed to understand market drivers of the cardamom value chain from southern districts of Phongsaly to China, as well as appropriate cardamom production technologies.
- Different stakeholders involved in each stage of the value chain (upstream to downstream) participated in discussions.
- Two field visits were conducted along the value chain in early April and early June, 2015 from selected districts of Luang Namtha, Oudomxay and Phongsaly provinces to Xishuangbanna in Yunnan province.
- Results may be affected by openness of traders as cardamom trading is highly informal. There are also some issues related to protection of the cardamom industry in Yunnan.

Cardamom value chain framework

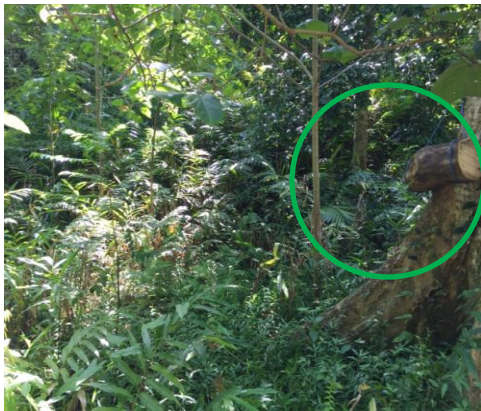


Gross margin budget analysis

- Yield and price are the two key factors. Dry yield observed is about 200 kg/ha for Paksong and about 80-100 kg/ha for Guangdong cardamom (120-180 kg/ha in China).
- In 2014, in Phongsaly, average income from cardamom is about 840-930 USD/hh/year.

Price (kip/kg)	Average dry yield (kg/ha)						
	10	50	100	150	200	250	300
30,000	-4,275,000	-3,075,000	-1,575,000	-75,000	1,425,000	2,925,000	4,425,000
50,000	-4,075,000	-2,075,000	425,000	2,925,000	5,425,000	7,925,000	10,425,000
100,000	-3,575,000	425,000	5,425,000	10,425,000	15,425,000	20,425,000	25,425,000
200,000	-2,575,000	5,425,000	15,425,000	25,425,000	35,425,000	45,425,000	55,425,000
300,000	-1,575,000	10,425,000	25,425,000	40,425,000	55,425,000	70,425,000	85,425,000
400,000	-575,000	15,425,000	35,425,000	55,425,000	75,425,000	95,425,000	115,425,000
500,000	425,000	20,425,000	45,425,000	70,425,000	95,425,000	120,425,000	145,425,000

Note: Based on the labour cost of 50,000 kip/day, cardamom seedling of 500 kip/seedling, an establishment of cardamom garden of about 7,000,000 kip/ha and farm management is 3,500,000 kip/year.

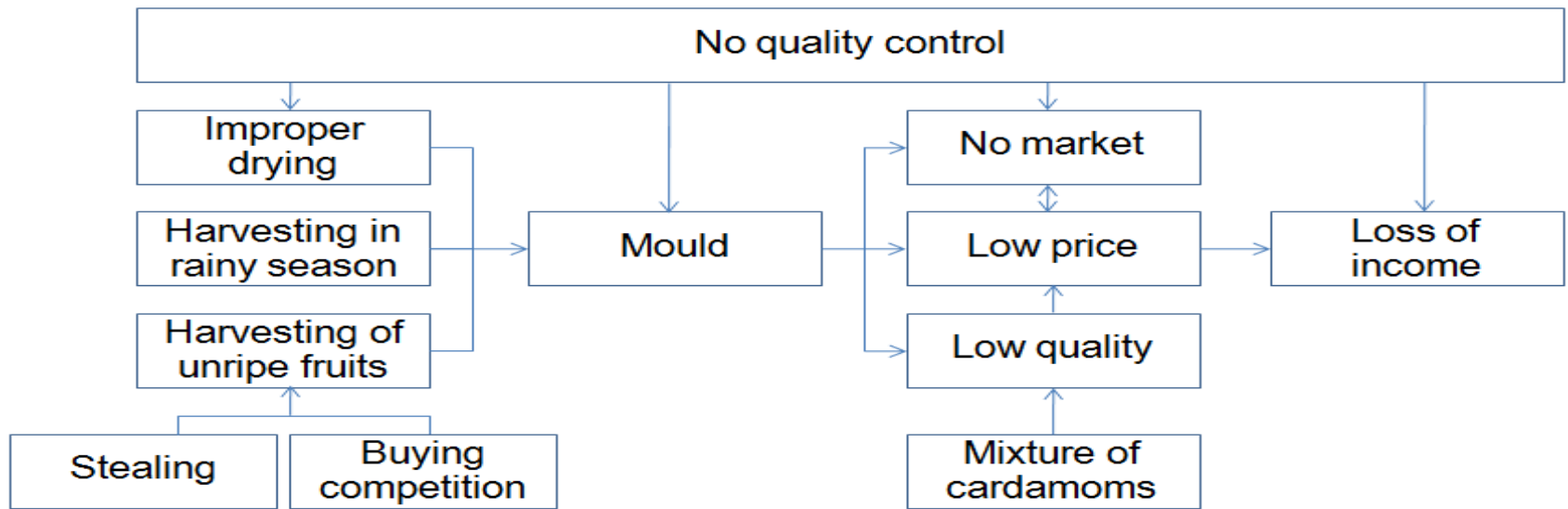


- Guangdong variety is very sensitive to ecological and environmental conditions (temperature, sunshine, humidity, rainfall, aspect and soil conditions).
- Appropriate plant spacing of about 10,000 seedlings/ha with timely re-generation in year 6-7.
- Good farm management is needed (managing weeds, soil, water, shade, etc).
- Not good productivity every year. Good environmental conditions for pollination are important. If necessary, insect pollination should be encouraged through spraying of sugar or honey.

Issues on post-harvesting and preliminary processing



- Commonly 2-3% are mouldy, and up to 10% of cheap cardamom is mixed with Guangdong variety.
- Different drying techniques; low conversion rate (5:1) is possible with the best technique.
- Farm-gate price could increase 5-10% if quality is controlled.



- Chinese production decreased by 40% in past 10 years due to rubber (27-29 million kip/ha) and banana (39-195 million kip/ha) plantations. In some areas cardamom can no longer be cultivated as environmental conditions have been altered. 38% of production is in Yunnan.
- In 2014, more than 100 Chinese middlemen were involved in trading cardamom in Phongsaly province – high collection competition. Imported about 300-500 tons (need 30% more).
- Some Chinese middlemen speculate that the price and quantity demanded from Laos will increase.

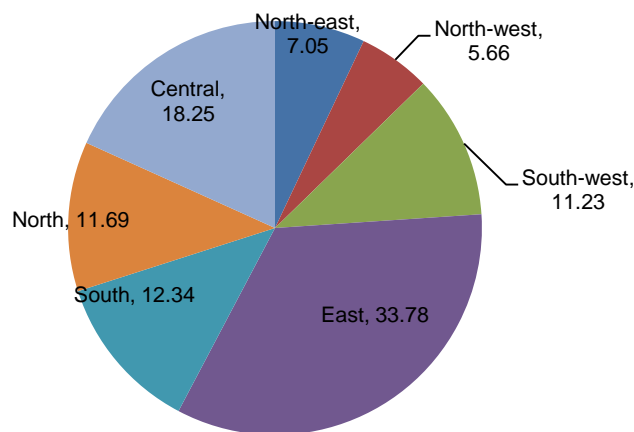
Abandoned cardamom
garde in Yunnan



Demand and supply of medicinal cardamom in China

	2010	2011	2012	2013	2014
Supply	2,513	2,750	2,966	3,167	3,312
Demand	2,952	3,202	3,498	3,767	3,916
Under-supply	439	452	532	600	604

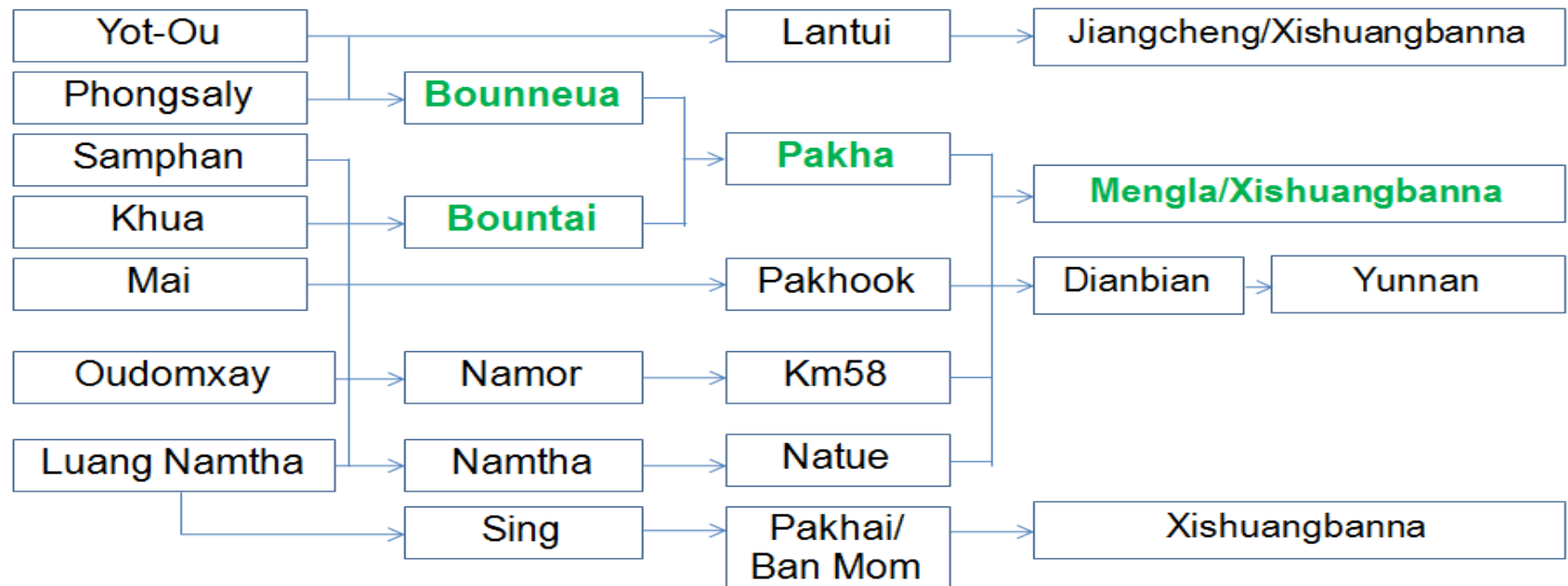
- Eastern part of China is the main market (33.78%) for medicinal Guangdong cardamom. Some cheap cardamom is fed to animals in the North of China during winter.
- China also imports cardamom from other countries (Myanmar, Vietnam, Thailand, etc.). Some cardamom is re-exported to Korea, etc.
- Estimated that demand will increase by 5-6% annually. China is promoting cardamom plantation through private sector.



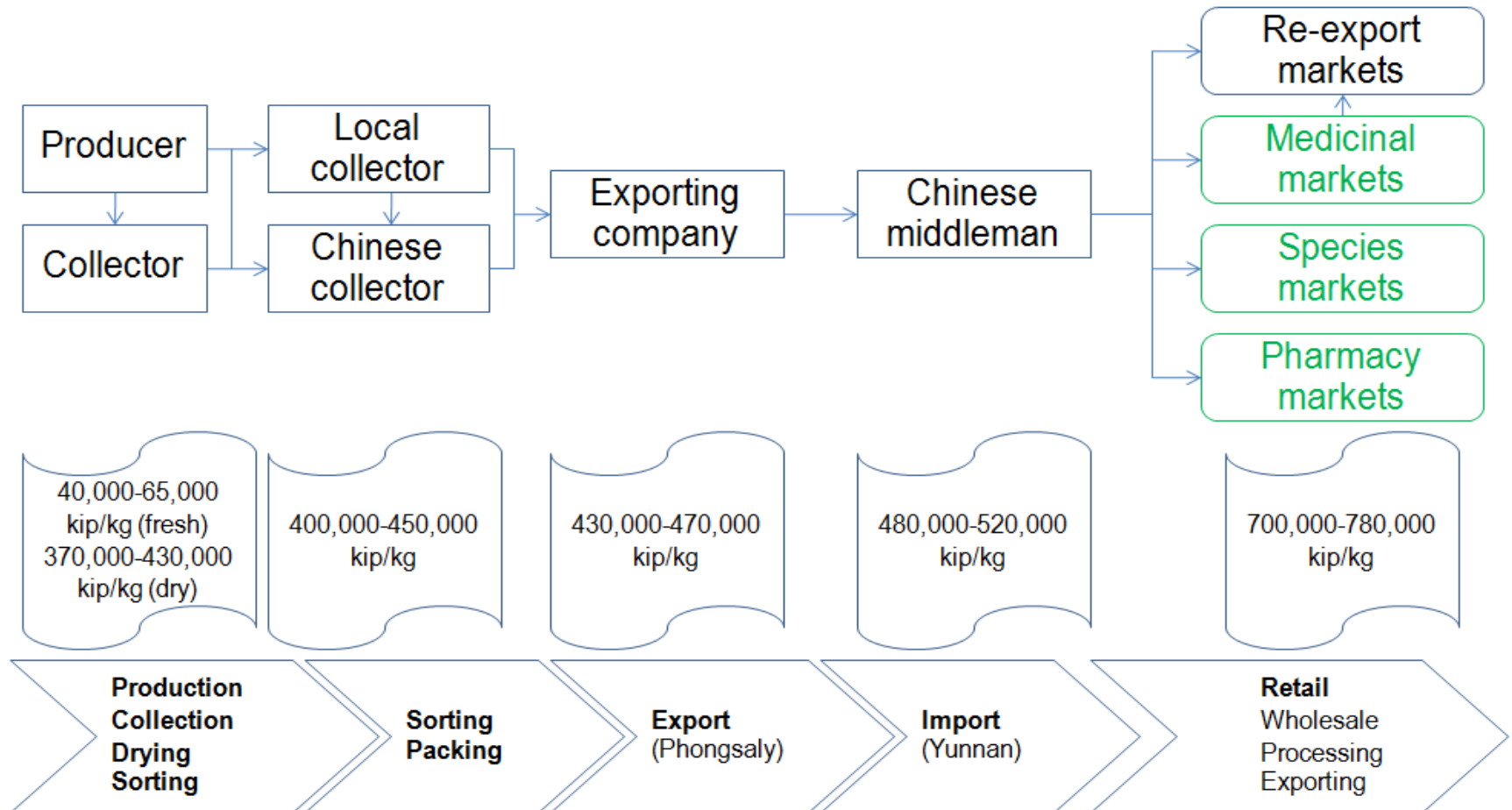
Projection of market trend in China

	2015	2016	2017	2018	2019
Supply	3,525	3,733	3,944	4,180	4,425
Demand	4,142	4,382	4,609	4,866	5,135
Under-supply	617	649	665	686	710

- Official exporting taxes and fees in Phongsaly are about 8% whilst importing taxes and fees in China are about 6%. Takes 1-3 weeks for export documentation.
- About 70-80% of cardamom exports from Northern Laos are informal/illegal through Phakha border: paying only 2-5% in unofficial fees.



Guangdong cardamom value chain, 2014



Preliminary recommendations

- Translate the Chinese handbook on cardamom production technologies and disseminate among extension workers and producing groups.
 - Initiate an annual one week cardamom production and post-harvesting training programme based in Phongsaly and other target provinces in collaboration with research and extension institutes in Yunnan.
 - Demonstrate on-farm cultivation in southern districts of Phongsaly province to improve productivity of cardamom cultivation (different sites, shading, establishment, density, regeneration, pollination).
 - Improve farmers awareness of quality control through strengthening producing groups.
 - Organize a multi-stakeholder workshop to review the effectiveness of collection and exporting regulations, tax and fees. Establish a one-stop-service for exporting procedures and documentation.
 - Improve marketing and trading information. Establish cardamom association and develop a task force (in the future).
-