



Kampot Pepper

An exceptional product – The revival of an industry

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Kampot Pepper – A long history

The Kingdom of Cambodia and the Kampot province

Cambodia is a south-east Asian country bordered on the east by Vietnam, on the west by Thailand, on the north by Laos and on the south by the Siam gulf. Its tropical climate is split between a dry season from November to April and a rainy season from May to October. There are today 13 million inhabitants in Cambodia, mainly in rural areas. Its capital Phnom Penh is home to 2 million Cambodians. The current political regime is a constitutional monarchy and the main religion is Theravada Buddhism



Map of Cambodia



Angkor Wat

Cambodia has a long troubled history. This powerful kingdom dominated south Asia from 800 to 1500 AD – the ruins of Angkor Wats are impressive remains – Cambodia was colonized by the French in 1863 and became part of the French Indochina in the 1900s. In 1953 the king Norodom Sihanouk declared the independence of Cambodia ending the French colonial era. In the 1970s Cambodia was to see its darkest times: destabilized by the Vietnam war nearby. The *Khmers Rouges* took control of the country in 1975. During the following 4 years, 2 million Cambodians disappeared, infrastructures were completely destroyed and intellectual leaders eliminated. The fall of the *Khmers Rouges* regime in 1978 was just the start of a long unstable period of time that ended in 1991 with the UN intervention. Since the 1998 elections, Cambodians enjoy a relative calm but everything needs to be rebuilt....

so since the April 1928 custom law allows unlimited imports of pepper from the colonies. The French colony exports even more: 3.416 tones in average since 3 years, 4.235 tones in 1927. Production almost disappeared from the Cochinchine region where it was in the hands of Hainan Chinese growers in the Hatien province but is maintained in Cambodia. “



Postal card from French colonial times – Grading of pepper

Pepper has always been one of the main industries of the Kampot region. Its flavour and its pugnacity made it one of the best peppers in the world – the unchallenged king of spice in the kitchens of the most renowned French chefs.

Unfortunately the events that took place in Cambodia destroyed the majority of the production. Infrastructures were destroyed, tools and machineries disappeared and the education level dropped drastically. Today, nearly 35% of the population lives below the poverty line (0.33 € per person per day).

The Pepper Plant

Pepper is a vine that grows along standards consisting of vertical poles. This vine originating from the tropical forests requires a hot and humid climate as well as a regulated exposition to the sun. Replicated today by grafting, a pepper vine starts producing after 3 years. When 6 – 7 years old, it reaches its maximum production potential and can then be 5 meters tall. A pepper vine can live for more than 30 years but its productivity starts decreasing after 15 years and is almost nil after 20 years.

In the Kampot region, pepper grows along dead wood standards installed on an elevated plot of land in order to allow better rain water drainage. In normal conditions, the varietar cultivated in Kampot should produce between 2.5 and 3 kilos per standard and can reach 5 kilos in exceptional conditions.

The average density of a plantation is 2500 poles per hectare.



Pepper farm in Kampot region

The Pepper Industry

Pepper is the number one spice in the world with a volume of supplies around 400.000 tonnes per year. Vietnam is today the first producer in volume (about 100.000 tonnes) followed by India, Indonesia and Malaysia.

The production potential of Kampot province is estimated to 200 tonnes on 40 hectares.

In Cambodia, the lack of infrastructures and the weak organization of farmers are the main reasons for the currently high production costs. This places Cambodian farmers at a disadvantage compared to competitors.

The challenge of Kampot pepper farmers can be compared to the one undertaken by French wine producers or European textile industries. Competition on the price being impossible, they need to focus on the quality of their product in order to position themselves on a luxury product justifying higher prices.

Kampot pepper has been long renowned as one of the best peppers in the world. The versatile flavour which can range from intensely spicy to mildly sweet with a hint of flower is a pleasure to the senses.



A Kampot pepper sauce with a good read meat will make everyone wish to rediscover this wonderful spice.

Well-targeted support to these farmers will allow them to access quality spice markets. This resurrection of Kampot pepper represents the hope of hundreds of families for a better life and offers perspective of a better future for the next generations.

A new life for Kampot Pepper

With the support of *FarmLink*, dozens of producers in the Kompong Trach region of Kampot province have restarted today their production. Kampot Pepper is back on the market!

The Situation in 2006

The Kompong Trach region is historically one of the main pepper production areas in Kampot. Dozens of farmers are still active despite difficult economic conditions.

In 2006, the FarmLink team witnessed the abandon and the uprooting of pepper plantations by farmers who could not cover their exploitation costs. Pepper prices on local markets reach an all-time low at less than 0.75 € per kilo.

The facts are simple:

- The maintenance of a pepper plantation costs around 2.30 € per pole
- Productivity was then very low: around 0.75 kilo per pole
- One farmer owns on average 200 poles
- The farmers – largely undereducated – do not know how to reach new markets
- The quality of the pepper they produce is still very superior to that of the main competitor (Vietnam).



Abandoned pepper farm



FarmLink's Action

We have been working for more than a year with these producers. Our goals are to:

- Look for new markets where prices could be more stable and rewarding to the farmers.
- Increase the productivity of the farmers and lower the production costs.

From these goals we identified a number of actions that should be implemented in parallel:

- Encourage the farmers to work together in cooperatives in order to
 - Supply a volume interesting for importers
 - Guarantee an efficient control on quality and homogeneity of the production
 - Share the investment costs
- Resolution of production and post-production problems (irrigation, organic fertilizer, organic pesticides, wooden poles, machinery) in order to
 - Reach a quality sufficient to access the target markets
 - Increase productivity
- Creation of a Research & Development unit in order to
 - Study new techniques that could lower the production costs
 - Study new varieties that could increase productivity
- Collaboration with Cambodian authorities in order to
 - Ease export procedures and clarify administrative tasks
 - Allow sanitary controls required for export
- Investment in marketing and promotion efforts in order to
 - Find export markets where we could sell the entire harvest at a fair price.

Assessment 2006 - 2007



Pepper gift bag sold by the associations in 2007

- Pepper quality improvement has been spectacular, demonstrating the commitment and know-how of the producers. Improved post-production methods (grading, cleaning) and simple tools provided by FarmLink have already allowed producers to achieve near export quality production of pepper.
- Thanks to a private donation, 5 water ponds were dug, allowing 20 producers to hope for a significant increase in production for the 2008 harvest.
- 3 tonnes of pepper were sold by the farmers at a price of 3 € per kilo. These producers registered a trading profit that will initiate an investment fund.
- 3 producers associations were created regrouping today more than 80 farmers.
- Several importers showed interest in the pepper and commercial contracts for the 2008 harvest will be signed very soon. The majority of the harvest will be sold for export.

Action plan 2007 - 2008

Our vision and action plan are long-term covering a multi-year period. We present here our action plan for the current year.

The positive results from the previous year allow us to engage a larger and more ambitious processing operation in order to guarantee all the farmers (members of the associations) sale of their production at a fair price. Quality standards of the 2006-7 production were much improved but some problems still need to be solved in order to satisfy the current contracts. Most importantly, our action brought Kampot Pepper out of the dark, motivated the farmers and attracted interest from importers. However, more progress must be made in order to reach sustainability.

We are now initiating important tasks that require financial support. We detail in this section the different tasks as well as their estimated cost.

These costs are based on a population of 100 pepper farmers with a total of 20.000 poles.

We study possibilities of donation as well as short-term or medium-term loans. We consider loans in some cases in order to bring the farms back on track. The reimbursement plan on these loans does not include the interest rate and are based on an estimated return to maximal productivity after 2 years.

It should be noted that the accumulation of credit solutions would require a re-evaluation of the reimbursement plans.

1. Irrigation

Access to water is certainly the number one problem of the farmers. From the month of December – January, no water is available to irrigate the pepper vines. The direct result is a premature harvest or the death of the vine. Lack of water is the primary cause of lost yield in the pepper farms.

- We plan to put in place an irrigation system that would guarantee continuity of water access. This system is composed of a deep well and a pond. A pump is used to fill the pond with water from the well in dry season. Farms are then irrigated by gravity.
- A less costly but less durable solution would be to dig simple ponds. A 200 m³ pond can irrigate 4 plantations..



A family of farmers collecting water from their almost-dried pond

2. Fertilizer

Fertilizer (cow dung) input is essential for the health of the pepper vine. A lot of farmers do not own enough cows to cover the annual needs in fertilizer. We estimate the annual costs of fertilizer at 0.25 € per pole.

Credits solutions can be put in place to allow proper manuring and the return to normal productivity. We estimate that the benefits of the first year would be enough to cover 50% of the costs for the second year.

3. Wooden standards and shade cover

The lack of quality wooden standards leads to their frequent replacement. Replacing a pole is a delicate operation as the vine is tightly attached to the standard. This operation damages the vine and leads to productivity loss. Moreover, frequent purchase of wooden standards is an important additional cost.

Shade cover composed of coconut leaves laid on a bamboo roof is also necessary in dry season. Direct exposure to sunlight “burns” the pepper vine, which then loses in productivity and eventually dies. The bamboo roof is the biggest cost for our farmers. At a cost of 1.30 € per pole, it represents almost 60% of the total production cost.

Long-term solutions are being studied (see section on Research & Development) but short-term solutions need to be considered in order to bring the existing farms back on track.

The combined cost of the wooden standard and the shading cover is about 1.50 € per pole. We estimate that 40% of the material needed (bamboo, coconut leaves) is available at the farm; the rest needs to be bought outside.



Pepper growing on dead wood standards with a coconut leaves shading cover

4. Machinery

Manual grading and cleaning of peppercorns last year led to a real increase in quality compared to the previous years. Nevertheless, these manual procedures do not produce the quality required for export. It will be necessary this year to invest in grading and cleaning machinery in order to reach the desired quality level. It would be preferable to study “easy” solutions based on machines that the farmers could easily replicate and maintain.

The main processing steps are:

- Sorting by gravity. Pepper density is the main quality criteria and light corns should be separated from the rest.
- Grading. The size of peppercorns in a bag must be homogeneous.
- Cleaning. No plant residue should remain in the bag. In particular, the “head” (part of the vine attached to the corn) must be removed.

5. Analytical laboratory

It will be necessary to be able to test the pepper harvested in 2008 against international quality standards.

An important step has already been made – a Dutch university donated the necessary laboratory material.

We now need to pay for shipment costs and for the rental of the laboratory building as well as for the salary of the laboratory employee.

6. Support to the associations

The farmers' associations are still young. Their representatives have a low level of education. These associations need support in terms of management, organization of quality control system, marketing and promotion of their product.

The farmers' associations need to be able to independently and durably finance this support. We cannot expect farmers to be in a position to participate financially before 3 or 4 years.



7. Research & Development

Several alternative production techniques need to be experimented in order to increase the quality and productivity of the farms and lower production costs.

These experiments cannot take place on farms currently in production. It is therefore necessary to create a “pilot” farm.

Several experiments must be made:

- First of all, we would like to experiment growing pepper vines on live support (real trees). This technique – widely used in India – would solve the problems related to bad quality dead wood standards as well as considerably reduce the cost of the shading cover.
- We would like to create a plot to plant fast growing trees, the wood of which could be used as standards. Bamboos could also be grown on that plot.
- We would like to study the impact of different organic fertilization methods that could increase productivity of the pepper vine.
- The use of plant soil cover could also be studied in order to lower the water input needs.



Pepper vine on live tree standard

8. Secure land title deeds

As pepper cultivation becomes profitable, the value of the land in the growing region will increase significantly. The land title deeds of the farmers are not clear and these farmers may lose their land to better-educated unscrupulous people. The land eviction issue is a growing concern in Cambodia and leads to big problems in society.

Securing land title deeds is a major undertaking that we deem essential if farmers are to obtain long-term benefit of their labour.

Impact of these activities on farmers' revenues

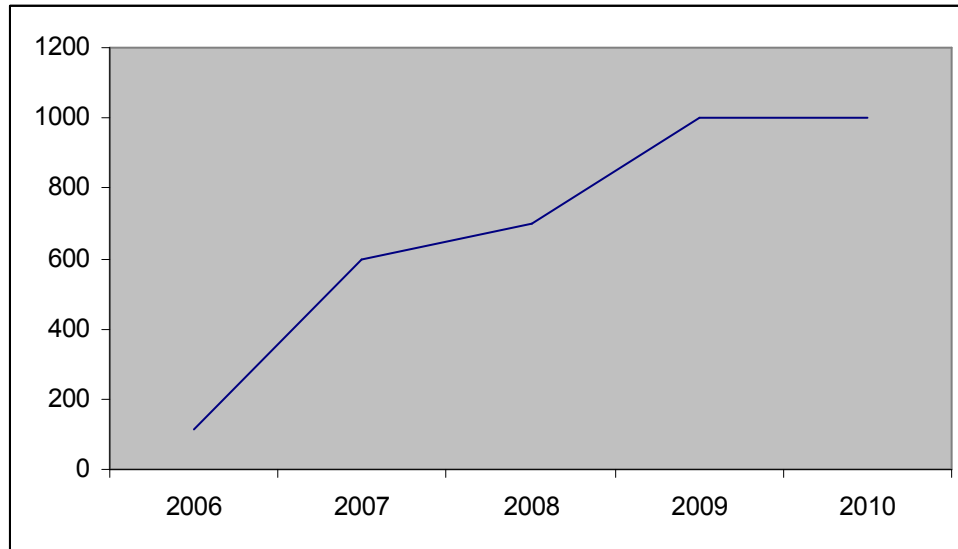
These activities aim at

- Increasing the productivity of pepper farms from 0.75 kilo per pole to 2.5 kilo per pole
- Increasing the quality to meet the requirements of export markets for quality spices and therefore increase the sale price at the farm from 0.75 € per kilo to 3 € per kilo.

Comparing to the year 2006, we estimate a 900% increase in farmers' revenues for 2009.

The benefits of an average farmer with 200 poles would increase from 112 € in 2006 to 1000 € in 2009 (loan reimbursement not included).

If we apply this number to 100 farmers with 20.000 poles, this would represent an increase in benefits of 90.000 € per year.



Estimated evolution of benefits for a farm of 200 poles

Self-Sufficient Associations

The tasks we wish to undertake aim at putting existing farms back on track and bringing the farmers back to a just profit.

The associations are the tool that can help manage these tasks. They also need to give a long-term vision of the pepper industry management. We do not plan continuous financial support to these associations. This would be profitable for neither the associations and their partners nor the farmers themselves.

These cooperative associations' incomes come from farmers' contribution as well as a percentage on the sale of the pepper. These resources are almost inexistent today, therefore financial support is necessary. Nevertheless, once the farms become profitable again, the farmers' contributions could increase and –the percentage taken on pepper sales would also be much more important.

We give these associations a target for financial self-sufficiency within the next 5 years.

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