

**Fish Conservations Zones (FCZs) on rivers and streams in Houaphanh Province have been a successful strategy employed by local communities to ensure abundant and diverse fish populations. FCZs lead to substantial increases in local fish consumption and income from fish sales. FCZs are often supported by riparian conservation efforts and tourism.**

## FISH CONSERVATION ZONE

### Scale and Impact

- FCZs have been established in 10 Districts and 141 villages in the province.
- 160 FCZs have been established in 37 rivers and streams.
- FCZs are providing greater fish resources to more than 14,000 rural people from 5,600 households.
- FCZ communities are catching up to 15,000 kgs of fish per year comprised of more than 30 fish species.
- Some families in FCZs receive up to 1,000,000 Kip per year from fish sales.

### Opportunities

- Expand the number of FCZs in provincial streams.
- Extend the FCZs into riparian ecosystems that are connected to FCZ streams.
- Develop tourist facilities at priority FCZs to increase revenue for communities from sales of restaurant food, locally grown fish feed, agricultural products and local handicrafts.
- Use the FCZs as a strong incentive for farmers to reduce the use of pesticides in upland agriculture.
- Increase the visibility and awareness of FCZs by means of distributing brochures, posters and placing of signs adjacent to FCZ areas.



Schweizerische Eidgenossenschaft  
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and Cooperation SDC

### In addition to the priority activities the province also support efforts to promote:

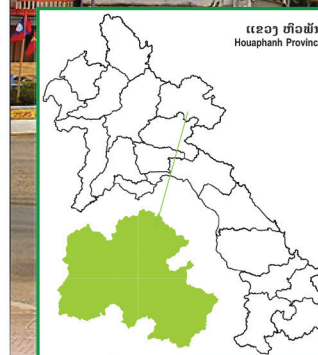
- **Beekeeping:** A huge potential for Lao honey exists if marketing, quality control and expansion of beekeeping can be achieved.
- **Native bananas:** Local bananas have a diversity of value added processing opportunities and farmers need to organize processing activities and expand production.
- **ABD Education:** The expansion of the number of schools teaching the curricula, inclusion in the Non-Formal Education system and more material support for schools is needed.
- **Wild Tea:** The ancient tea trees are now source of tea expansion which need protection, farmer organization and equitable market support.
- **Fish-rice cultivation:** This is an age-old practice in Asia and part of Laos. Increases in fish production can be made via adoption of practices used in other countries in Asia, and can be combined with IPM practices in rice.
- **Forest fire prevention:** Forest fires can be prevented by means of community efforts to construct and maintain fire breaks in the landscape.

#### FOR MORE INFORMATION

- Department of Agriculture and Forestry
- Department of Education and Sport
- Department of Industries and Commerce

ພາເຂົ້າລາວ  
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## ແຂວງຫົວພັນ Houaphanh Province



### ສ້າງຄວາມເຂັ້ມແຂງດ້ານຊີວະນາໆພັນ Strengthening Agro-Biodiversity

303,021 population 49% female  
50,870 household  
9 ethnic groups  
10 districts  
58% forest cover  
33% cultivation land  
85% of population are farmers



ສະຖາບັນຄົ້ນຄວ້າກະສິກຳ, ປ່າໄມ້ ແລະ ພັດທະນາຊຸມນະບົດ  
National Agriculture and Forestry Research Institute



# LOCAL ORANGES VARIETIES



The local Makpaen and Makchom orange varieties from Houaphanh Province have a high demand due to their popularity with consumers based on their sweet and sour taste. There are opportunities to further exploit this demand by means of introducing high quality planting material, better management of orange trees, greater focus on marketing and strengthening farmer orange producer organizations.

## Production

- Makpaen and Makchom oranges are produced in 10 villages in 2 out of 10 districts in Houaphanh Province.
- 78 households produce Makpaen and Makchom oranges.
- Orange growers average 4,000,000 Kip income per family per year.
- Annual orange production is approximately 50 tons from 36 hectares.
- There are 6 private and 2 government seedling nurseries providing high quality orange seedlings in Kouan and Xamneua Districts.
- Orange production and quality continues to be constrained by disease, insects and poor management.

## Marketing

- There are diverse marketing arrangements for Makpaen and Makchom oranges.
- Oranges are marketed by 6 local buyers and 2 buyers from Xiengkhouang Province and Vietnam.
- Farmer direct sales are important with five major roadside sales areas, direct orchard sales and local markets being the major sales strategies used by farmers.
- Marketing strategies increasingly focus on organic production, quality and improved packaging.
- Farmgate prices for local Houaphanh oranges in the past 5 years has been 3,500-6,000 Kip per kilogram with retail prices of 8,000-15,000 Kip per kilogram.

## Opportunities

- Improve quality and production of oranges by means of improving overall management especially annual pruning of trees, increased use of irrigation and fertilization.
- Replacing old diseased orange trees with improved high-quality orange seedlings including Mak Doukdeua and Mak SamSip.

- Expand the area of orange production.
- Diversification into other citrus varieties and include bees for pollination and chickens for pest control.
- Employ improved marketing strategies including a focus on organic quality and packaging.
- Install better advertising for orchard locations and contacts for orange sellers.



KhaoKaiNoi (KKN) is a rice variety grown only in special environments in Xieng khouang and Houaphanh Provinces, composed of 6 strains. The rice is known for its unique taste and aroma and demand for this rice is growing. It is a priority crop of Houaphanh Province.

# KHAOKAINOI

## Production

- There are 6 distinct strains making up Khao Kai Noi, each with a different color, taste and aroma.
- KKN is produced in only 6 Districts: Xamneua, Hiem, Xon, Houameuang, Sopbao, and Viengxay.
- Currently, 27,000 tons of KKN is produced in Houaphanh each year on about 6,000 hectares of land, averaging 4.5 tons/ha.
- Current production of high quality KKN seed in Ban Ong Seed Production Center includes 49kg of breeder seed, 74 kg of foundation seed, 75 kg of registered seed, 73 kg of certified seed, 1,700 kg of registered seed, and 8,600 kg of certified seed produced by farmers.

## Marketing

- 65% of total KKN produced in Houaphanh is sold. The remainder is consumed by farmers.
- There are many local rice traders and local buyers of KKN in the province.
- The farmgate price of KKN is 6,000 -7,000 Kip/kg and the retail prices range from 8,000-10,000 Kip/kg.

## Opportunities

- Significant infrastructure exists to support KKN production including 170 permanent irrigation systems, 2,000 temporary irrigation systems, 7 pipe irrigation systems, 8 reservoirs and 145 water wheels.
- The Houaphanh climate is conducive for KKN production.
- KKN is climate tolerant, has a high yield, is aromatic and expensive.
- Build on KKN's reputation as being a locally unique, organic and popular rice.
- Utilize the GI registration of KKN for market expansion.



Norloy is a bamboo shoot that comes from a specific bamboo species only found in a few northern provinces in dispersed locations. While known locally for it's special eating qualities, it is becoming increasingly popular in provincial towns as well as Vientiane. Peculiar to Norloy, this bamboo shoot is hollow. It is also starting to be used for drinking straws to replace plastic straws in high end restaurants. While it is abundant in the wild, its cultivation is being promoted.

# NORLOY

## Production

- Norloy is grown by 105 households in 5 villages in one district: Houameuang.
- Norloy is available from August – November.
- Farmers have now planted 20 hectares of Norloy to supplement wild populations.
- 5 groups of farmers in the five villages have been trained on Norloy production.
- 69 tons of Norloy are harvested from the plantations, at a rate of 3.4 tons/hectare.
- 28 hectares of land have been zoned for Norloy cultivation.
- Evidence shows that neighboring communities are now beginning to cultivate this important species.

## Marketing

- Marketing of Norloy is undeveloped, with local buyers and traders mainly selling to local markets.
- Roadside sales of Norloy in 5 locations are still important for substantial sales.
- Some farmers and traders are now packaging and shipping to distant markets, including Vientiane.
- Norloy prices in the market fluctuate between 5,000 to 12,000 Kip per kilogram.

## Opportunities

- Expand Norloy production within existing villages and expand to other villages.
- Provide technical support and variety selection capacities to new villages.
- Develop village level plans that clearly delineate areas for permanent Norloy production with tenure arrangements.
- Develop new markets and market chain actors.
- Promote Norloy via signs, better packaging and collaboration in major district, provincial markets and roadside markets.

