

## Appendix

### Appendix A Farmers' interview form

Date.....

Interview number (vv/sshhh).....

vv = assigned village no.  
ss = Sample no. in village  
hhh = actual house no.

1. Respondent's First Name....., Family Name.....  
Age....., Education level....., Ethnic group....., Birth Place.....
2. Name of spouse ....., Family Name..... Ethnic group.....  
Origins: [ ] original, [ ] migrated, if migrant, name of original .....  
Village....., district....., Province.....  
Year migrated.....
3. Household members....., Female ....., laborers ..... Female .....
4. Farmer status.....  
 Wealthier than village average       Average for village  
 Poorer than village
5. Type of on-farm work ..... and timing .....  
..... and timing .....  
..... and timing .....  
..... and timing .....
6. Type of Off-farm work .....and timing .....  
.....and timing .....  
.....and timing .....
7. Rice farming from 2005:
  - o Upland rice, total rice variety.....varieties  
Name of most popular varieties:  
1.....How much (seed).....kg; yield.....  
2.....How much (seed).....kg; yield.....  
3.....How much (seed).....kg; yield.....  
4.....How much (seed).....kg; yield.....  
5.....How much (seed).....kg; yield
  - Paddy field, total rice variety.....varieties  
Name of most popular varieties:  
1.....How much (seed).....kg; yield.....  
2.....How much (seed).....kg; yield.....  
3.....How much (seed).....kg; yield.....

➤ How many months can you feed your self and your family from the food grains grown in your farm? \_\_\_\_\_ Months; yield from upland rice \_\_\_\_\_ %; yield from paddy rice \_\_\_\_\_ %

➤ Where do you get funds to purchase food grains?

- |  |  |
|--|--|
| <input type="checkbox"/> Crop sale                   | <input type="checkbox"/> Sale of forest products |
| <input type="checkbox"/> Agriculture wage employment | <input type="checkbox"/> Non-farm sources        |
| <input type="checkbox"/> Livestock sale              | <input type="checkbox"/> Others, specify         |
| <input type="checkbox"/> Vegetable sale              |  |

#### 8. Rice farming from 2006:

- Upland rice, total rice variety.....varieties

Name of most popular varieties:

- |        |                      |                |
|--------|----------------------|----------------|
| 1..... | How much (seed)..... | kg; yield..... |
| 2..... | How much (seed)..... | kg; yield..... |
| 3..... | How much (seed)..... | kg; yield..... |
| 4..... | How much (seed)..... | kg; yield..... |
| 5..... | How much (seed)..... | kg; yield..... |

- Paddy field, total rice variety.....varieties

Name of most popular varieties:

- |        |                      |                |
|--------|----------------------|----------------|
| 1..... | How much (seed)..... | kg; yield..... |
| 2..... | How much (seed)..... | kg; yield..... |
| 3..... | How much (seed)..... | kg; yield..... |

➤ How many months can you feed your self and your family from the food grains grown in your farm? \_\_\_\_\_ Months; yield from upland rice \_\_\_\_\_ %; yield from paddy rice \_\_\_\_\_ %

➤ Where do you get funds to purchase food grains?

- |  |  |
|--|--|
| <input type="checkbox"/> Crop sale                   | <input type="checkbox"/> Sale of forest products |
| <input type="checkbox"/> Agriculture wage employment | <input type="checkbox"/> Non-farm sources        |
| <input type="checkbox"/> Livestock sale              | <input type="checkbox"/> Others, specify         |
| <input type="checkbox"/> Vegetable sale              |  |

#### 9. Rice farming 2007:

- Upland rice, total rice variety.....varieties

Name of most popular varieties:

- |        |                      |    |
|--------|----------------------|----|
| 1..... | How much (seed)..... | kg |
| 2..... | How much (seed)..... | kg |
| 3..... | How much (seed)..... | kg |
| 4..... | How much (seed)..... | kg |
| 5..... | How much (seed)..... | kg |

- Paddy field, total rice variety.....varieties

Name of most popular varieties:

- 1.....
- 2.....
- 3.....

➤ Reasons for growing these variety

- 1.....why.....
- 2.....why.....
- 3.....why.....

10. Seed exchange

- Do you get the seed for planting from other people? [ ] yes, [ ] no  
 If yes: variety name. 1 .....  
 When:  first year;  2-4 years;  5- 9 years;  more than 10 years  
 Who (name).....village.....  
 Ethnic group:  Thai lue;  Lao lum;  Khmu;  Hmong.  
 Relationship.....

Variety name.2 .....

When:  first year;  2-4 years;  5- 9 years;  more than 10 years  
 Who (name).....village.....  
 Ethnic group:  Thai lue;  Lao lum;  Khmu;  Hmong.  
 Relationship.....

Variety name. 3. ....

When:  first year;  2-4 years;  5- 9 years;  more than 10 years  
 Who (name).....village.....  
 Ethnic group:  Thai lue;  Lao lum;  Khmu;  Hmong.  
 Relationship.....

- Do you give the seed for planting to other people? [ ] yes, [ ] no

If yes: variety name. 1 .....

When:  first year;  2-4 years;  5- 9 years;  more than 10 years  
 Who (name).....village.....  
 Ethnic group:  Thai lue;  Lao lum;  Khmu;  Hmong.  
 Relationship.....

Variety name.2 .....

When:  first year;  2-4 years;  5- 9 years;  more than 10 years  
 Who (name).....village.....  
 Ethnic group:  Thai lue;  Lao lum;  Khmu;  Hmong.  
 Relationship.....

11. Seed selection:

Do you select the seed for planting following season? [ ] yes, [ ] no  
 If yes when; [ ] every year, [ ] some years: if some years  
 When....., and why.....

Who does the seed selection: .....why.....

On what characteristics of the plant do you focus your attention to select the seeds for Planting.....

Why.....

- |  |   |
|--|---|
| <input type="checkbox"/> Select panicle from harvested sheaves | <input type="checkbox"/> Panicle selection from production plot |
| <input type="checkbox"/> Other                                 | <input type="checkbox"/> Separated plot and harvest in bulk     |
|  | <input type="checkbox"/> Select individual hill or plant        |

12. Seed storage

- |   |   |
|---|---|
| <input type="checkbox"/> Mixed in the same rice consumption storage | <input type="checkbox"/> Container (tank) |
| <input type="checkbox"/> Basket                                     | <input type="checkbox"/> Bag (30-50 kg)   |
|   | <input type="checkbox"/> Panicle hang     |

13. Reasons for growing many varieties

- Conservation; why .....
- Reduced insects outbreak; why .....
- Insufficient rice for consumption; why .....
- Cultural; why .....
- Other; .....

**Appendix B** Form survey of village diversity of rice

1. name of village.....

2. Number of rice cultivars existence at presents

No	Cultivars	Type	Maturity				Ecosystem	Special characters	Number of household grown	Proportion of area
			N	G	E	M				
1										
2										
3										
4										
5										
6										
7										
8										
9										
10										
11										
12										
13										
14										

ลิขสิทธิ์มหาวิทยาลัยเชียงใหม่

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**Appendix C** Description of morphological and physiological characteristics were recorded individually using method of IRRI-IBPGR (1980)

<b>Descriptor<sup>1</sup></b>	<b>Code Guide</b>	<b>Growth stage</b>
<b>LEAF</b>		
1. Blade pubescence	1 glabrous 2 intermediate 3 pubescent	late vegetative stage
2. Blade color	1 pale green 2 green 3 dark green 4 purple tips 5 purple margins 6 purple blotch 7 purple	late vegetative stage
3. Basal leaf sheath color	1 green 2 purple lines 3 light purple 4 purple	early to late vegetative stage
<b>LIGULE</b>		
4. Color	1 white 2 purple lines 3 purple	late vegetative stage
5. Shape	1 acute to acuminate 2 2-cleft 3 truncate	late vegetative stage
6. Collar color	1 pale green 2 green 3 purple	late vegetative stage
7. Auricle color	1 pale green 2 purple	late vegetative stage
8. Number of days from effective seeding date to 50% heading.		
<b>CULM</b>		
9. Length		after flowering
10. Number		after flowering
<b>PANICLE</b>		
11. Length		at maturity
12. Number seed/panicle		at maturity
13. % filled seeds		at maturity
<b>GRAIN (Spikelet)</b>		
14. Awning	0 absent 1 short and partly awned 5 short and fully awned 7 long and partly awned 9 long and fully awned	flowering to maturity

### Appendix C (Continued)

<b>Descriptor<sup>1</sup></b>	<b>Code Guide</b>	<b>Growth stage</b>
15. Apiculus color	1 white 2 straw 3 brown (tawny) 4 red 5 red apex 6 purple 7 purple apex	at maturity
16. Stigma color	1 white 2 light green 3 yellow 4 light purple 5 purple	at flowering
17. Husk color	0 straw 1 gold and/or gold furrows on straw background 2 brown line on straw 3 brown furrows on straw 4 brown (tawny) 5 reddish to light purple 6 purple line on straw 7 purple furrows on straw 8 purple 9 black W white	at maturity
18. Husk pubescence	1 glabrous 2 hairs on lemma keel 3 hairs on upper portion 4 short hairs 5 long hairs (velvety)	flowering to maturity
19. 100-grain weight		at maturity
20. Length		at maturity
21. Width		at maturity
22. Pericarp color	1 white 2 light brown 3 speckled brown 4 brown 5 red 6 variable purple 7 purple	at maturity
23. Endosperm type	1 nonglutinous (nonwaxy) 2 glutinous (waxy)	at maturity

**Appendix D Variety names of local rice in the study areas**

District and villages	Number	ເຊື້ອມໜຸນ (Laos)	ชื่อพื้นที่ (Thai)	Variety names (English)
âÓìÜÃäÑìæÆ (ອຳເກອໂພນໄຂ) (Phonxay district)	1	ÚàÀâÁìÜåØÇ Š	มะເຂົ້າໄຫຍ່	Mak Khuea Yai
1. Í <sup>៥</sup> àìØ <sup>៥</sup> çÓèì (ບ້ານທ້ວມນັນ) (Houyman village)	2	âÁ៥àÄìÀ	ข้าวຈຸກ	Kao Chuk
	3	ÈçãÈÃ	ດອແຄງ	Do Deng
	4	ÚàÀâÁìÜì <sup>៥</sup> ÜÇ	มะເຂົ້ານ້ອຍ	Mak Khuea Noi
	5	ÌÝÓàÀ	ນໍາມັນ	Nam Man
	6	æÓ <sup>៥</sup> ØíÀ	ໄມ້ຫກ	Mai Hok
	7	âÁ៥àÍ'Ã	ข້າວນັ້ງ	Kao Bung
	8	ãÈÃâî <sup>៥</sup> ÜÇ	ແດງເປື່ອຍ	Deng Phuey
	9	âÁ៥àÀœ	ข້າວກໍາ	Kao Kum
	10	âÁ៥àÉœ	ข້າວຕໍ່າ	Kao Tum
	11	Ä <sup>៥</sup> àxÈç	ข້າວດອ	Chao Do
	12	âÁ៥àäÑŠ	ข້າວແພ່	Kao Phae
	13	ÚàÀØèìÅïÃ	มะທຶນສູງ	Mak Hin Soung
	14	âÁ៥àÚê	ข້າວໝີ	Kao Mee
	15	âÁ៥àÈá	ข້າວດໍາ	Kao Dum
	16	âÁ៥àäÈÃ	ข້າວແຄງ	Kao Deng
	17	ÈçÁàx	ດອຫາວ	Do Khao
2. Í <sup>៥</sup> àìËŠaäÑ (ບ້ານທ່າໂພ) (Thapho village)	18	âÁ៥àÄìÀ	ข້າວຈຸກ	Kao Chuk
	19	ÚàÀâÁìÜåØÇ Š	มะເຂົ້າໄຫຍ່	Mak Khuea Yai
	20	ÖìÓïíx	ລື້ມັວ	Luem Phouw
	21	ÚàÀâÁìÜì <sup>៥</sup> ÜÇ	มะເຂົ້ານ້ອຍ	Mak Khuea Noi
	22	âÁ៥àäÈÃ	ข້າວແຄງ	Kao Deng
	23	ãÈÃâî <sup>៥</sup> ÜÇ	ແດງເປື່ອຍ	Deng Phuey
	24	âÁ៥àÍ'Ã	ข້າວນັ້ງ	Kao bung
	25	ÌÝÓèì	ນໍາມັນ	Nam Man
	26	âÁ៥àØðxÃ	ข້າວລວງ	Kao Louang

### Appendix D (Continued)

District and villages	Number	ເຊື້ອນໄຫວ້າລາວ (Laos)	ชื่อพันธุ์ (Thai)	Variety names (English)
2. ໄກສະບັບສັດທະນາ (ບ້ານທ່າໂພ) (Thapho village)	27	âÁ៥àâÛìÜÃ	ข้าวเหลือง	Kao Leung
	28	ଲାକୋହାଏନ୍	ปากลึง	Pak Lueng
	29	ଶାଓତୁମ୍	ข้าวต่ำ	Chao Tum
	30	ତାଦୋଖମ୍	ท่าดอกคำ	Thadokham
ພାକୁ ພାକୁ Pak Ou district	31	ଫାହେ	ແພີ່	Phae Pee
	32	ଫାହୋ	ແພົດ	Phae Do
	33	ଫାନ୍କ	ข້າວນັກ	Kao Nok
	34	ଫାହଙ୍ଗ	ແພ່ກາງ	Phae Kang
1. ໄກສະບັບສັດທ່າແຂ່ງ (ບ້ານຄາດທ່າແຂ່ງ) (Ladthahae village)	35	ମାନପୁ	ມັນປູ	Man Pou
	36	ନାମମାକ	ນໍ້າໝາກ	Nam Mak
	37	ଲେଂବାନ	ເଲື້ອງນານ	Leung Ban
	38	କୌହୀ	ข້າວເຊີຍ	Kao Hea
2. ໄກສະບັບສັດທ່າໜຳ (ບ້ານຫ້າຍເຫຼືອງ)	39	କୌକାନ	ข້າວກ່ານ	Kao Kan
	40	କୌଡଙ	ข້າວແಡଙ	Kao Deng
	41	ମନଦୂ	ມັນດອ	Mon Do
	42	ଚାଓଦୂ	ຈ້າວດອ	Chao Do
2. ໄກສະບັບສັດທ່າໜຳ	43	ରେଡି	ກົງ16	RD16
	44	ନାମପା	ນໍ້າປະ	Nam Paa
	45	ଦୋଡା	ດອໄକ්	Do Dai
	46	ନାଫଣ	นาໂພນ	Na Phon
(Houyleung village)	47	ଫାହେ	ແພີ່	Phae Pee
	48	ଫାହୋ	ແພົດ	Phae Do
	49	ଫାହଙ୍ଗ	ແພ່ກາງ	Phae Kang
	50	ଫାନ୍କ	ข້າວນັກ	Kao Nok
	51	ଲାଯ୍ୟୋ	ଲାଯ୍ୟୋ	Lai Yai

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ໄຟ້າມີ

ນກຄອ

Nok Khor

**Appendix D (Continued)**

District and villages	Number	ເຊື່ອຍໍາລັດ (Laos)	ຊື່ພັນນີ້ (Thai)	Variety names (English)
2. ໄກສະຫຼວງຈຳເປົວ	53	ເຂົ້າຂັ້ນແຈ້ງ	ໜ້າດອເດທ	Kao Do Det
	54	ເຂົ້າຂັ້ນແຈ້ງ	ໜ້າລາວສູງ	Chao Lao Soung
	55	ເຂົ້າຂັ້ນແຈ້ງ	ໜ້າກຳ	Kao Kum
	56	ເຂົ້າຂັ້ນແຈ້ງ	ໜ້າກ່ານ	Kao Kan
	57	ເຂົ້າຂັ້ນແຈ້ງ	ລານູນ	La Boun
	58	ເຂົ້າຂັ້ນແຈ້ງ	ໜ້າປຶກ	Chao Peek
	59	ເຂົ້າຂັ້ນແຈ້ງ	ໜ້າແຄງ	Kao Deng
	60	ເຂົ້າຂັ້ນແຈ້ງ	ຕະລອຍ	Taa Loy
	61	ເຂົ້າຂັ້ນແຈ້ງ	ນຳປະ	Nam Paa
	62	ເຂົ້າຂັ້ນແຈ້ງ	ໜ້າຂາວ	Kao Khao
	63	ເຂົ້າຂັ້ນແຈ້ງ	ດອຂາວ	Do Khao

## Curriculum Vitae

**Name**

Mr. Khamla Phanthaboun

**Date of birth**

30 December 1970

**Educational background**

- 1985-1988 High School. Lung Prabang High School Number One in Luang Prabang province of the Lao PDR.
- 1988-1991 Diploma Agriculture (Agronomy) Nabong Agriculture and Forestry College, Vientiane, Lao PDR.
- 1999-2002 B.S Agriculture (Agronomy), National University of Lao, Faculty of Agriculture, Vientiane, Lao PDR.
- 2006-2009 MSc. In Agronomy, Faculty of Agriculture, Chiang Mai University, Thailand
- Scholarship: SIDA founded Lao-Swedish Upland Agriculture and Forestry Research project at NAFRI, Lao PDR.

**Work experiences**

- 1991-1994 Extension worker at Agriculture and Forestry Office, Luang Prabang province, Lao PDR.
- 1994-1999 Site managers in Sustainable Agriculture in Slopping Land Project in Luang Prabang province, Lao PDR.
- 2003-2006 Head of Agriculture Research Station, Luang Prabang province, Lao PDR.

### **Publications and Presentation**

Phanthaboun, K., B. Rerkasem, S. JamJod. 2007. Genetic Diversity of Local Rice

Varieties and Farmers' Management in Luang Prabang, Laos. A paper

presented in The Journal of Agriculture, Faculty of Agriculture, Chiang Mai

University, Thailand, 3-4 December 2007. (Oral presentation)

Phanthaboun, K., B. Rerkasem, S. JamJod. 2008. Genetic Diversity of Local Rice

Varieties in Luang Prabang, Lao PDR. A presented in The 2007 Technical

Meeting of the Senior research Scholars' in Field Crops. Cha-am, Thailand, 21-

22 November 2008. (Oral presentation)

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