

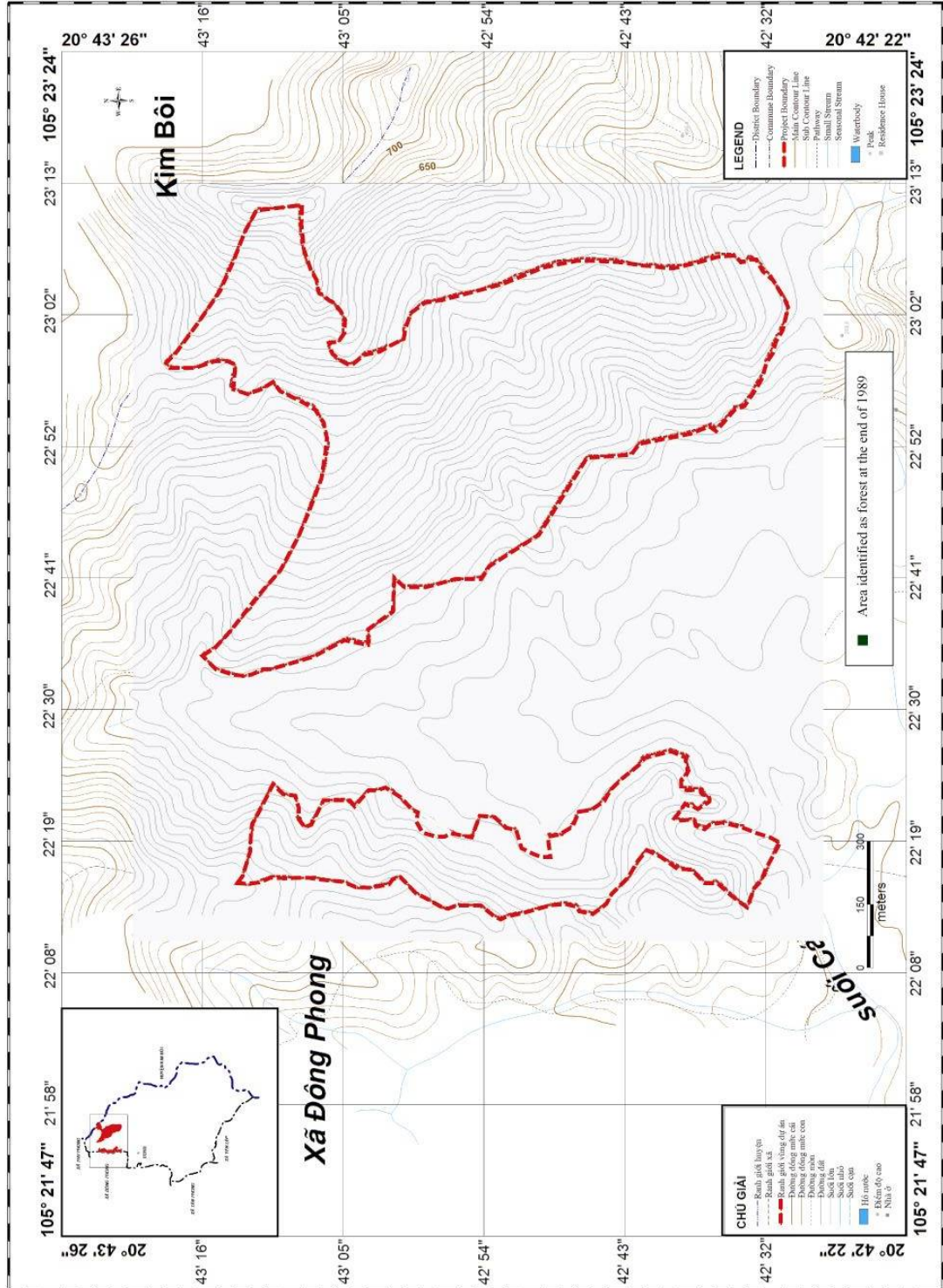
Appendix-7

*Maps showing the final project boundary*

**BẢN ĐỒ RANH GIỚI VÙNG DỰ ÁN AR-CDM (VÙNG 1&2)**

AR-CDM PROJECT BOUNDARY MAP (Site 1&2)

XÓM NHỎI - XUÂN PHONG - CAO PHONG - HÒA BÌNH  
 NHỎI VILLAGE - XUÂN PHONG - CAO PHONG - HOA BINH

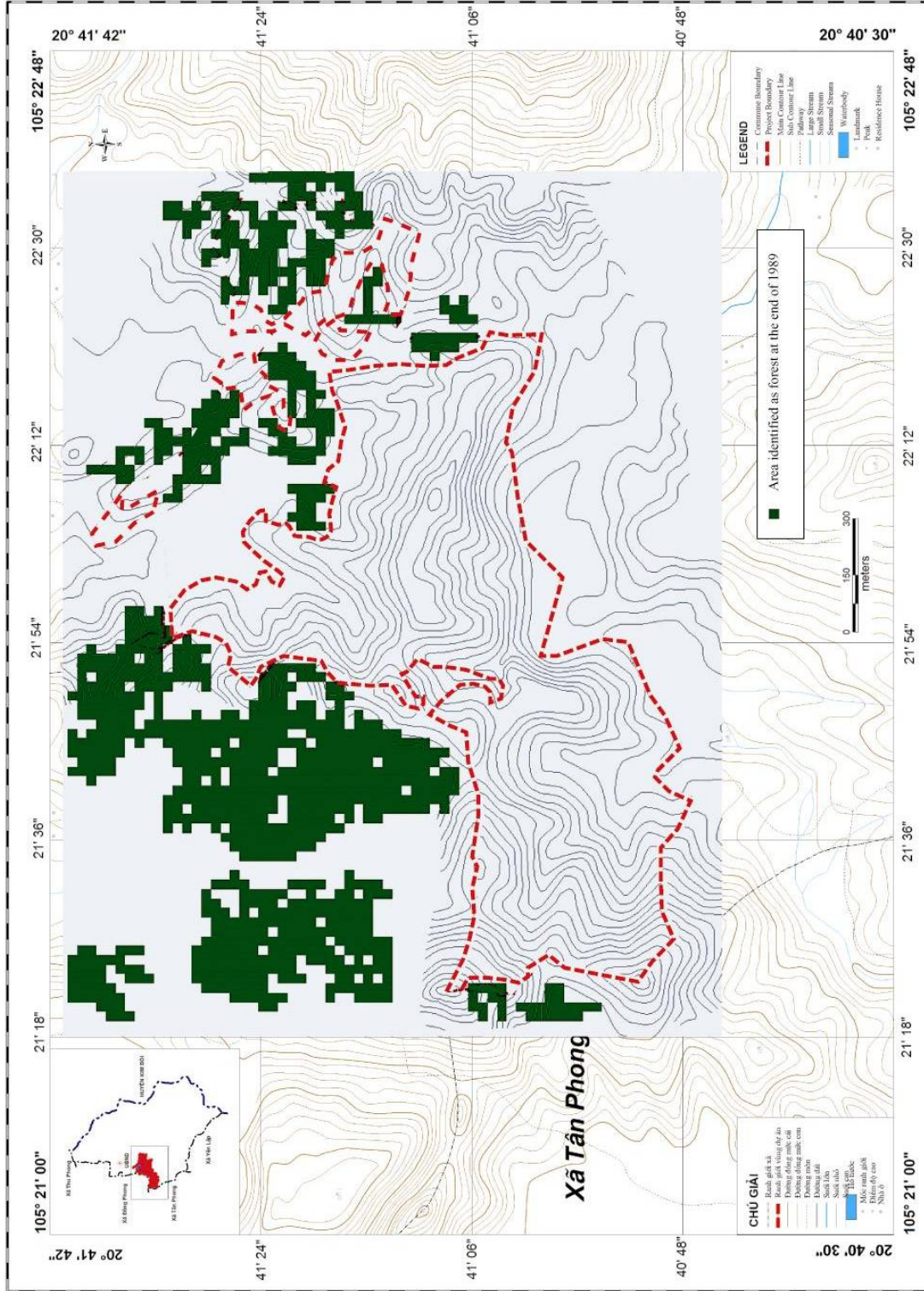


Map showing the Final Project Boundary (Site-1&2: Xuan Phong North & Northeast Areas)

**BẢN ĐỒ RANH GIỚI VÙNG DỰ ÁN AR-CDM (VÙNG - 3)**

AR-CDM PROJECT BOUNDARY MAP (Site - 3)

XOM CAN - XUAN PHONG - CAO PHONG - HOA BINH  
CAN VILLAGE - XUAN PHONG - CAO PHONG - HOA BINH



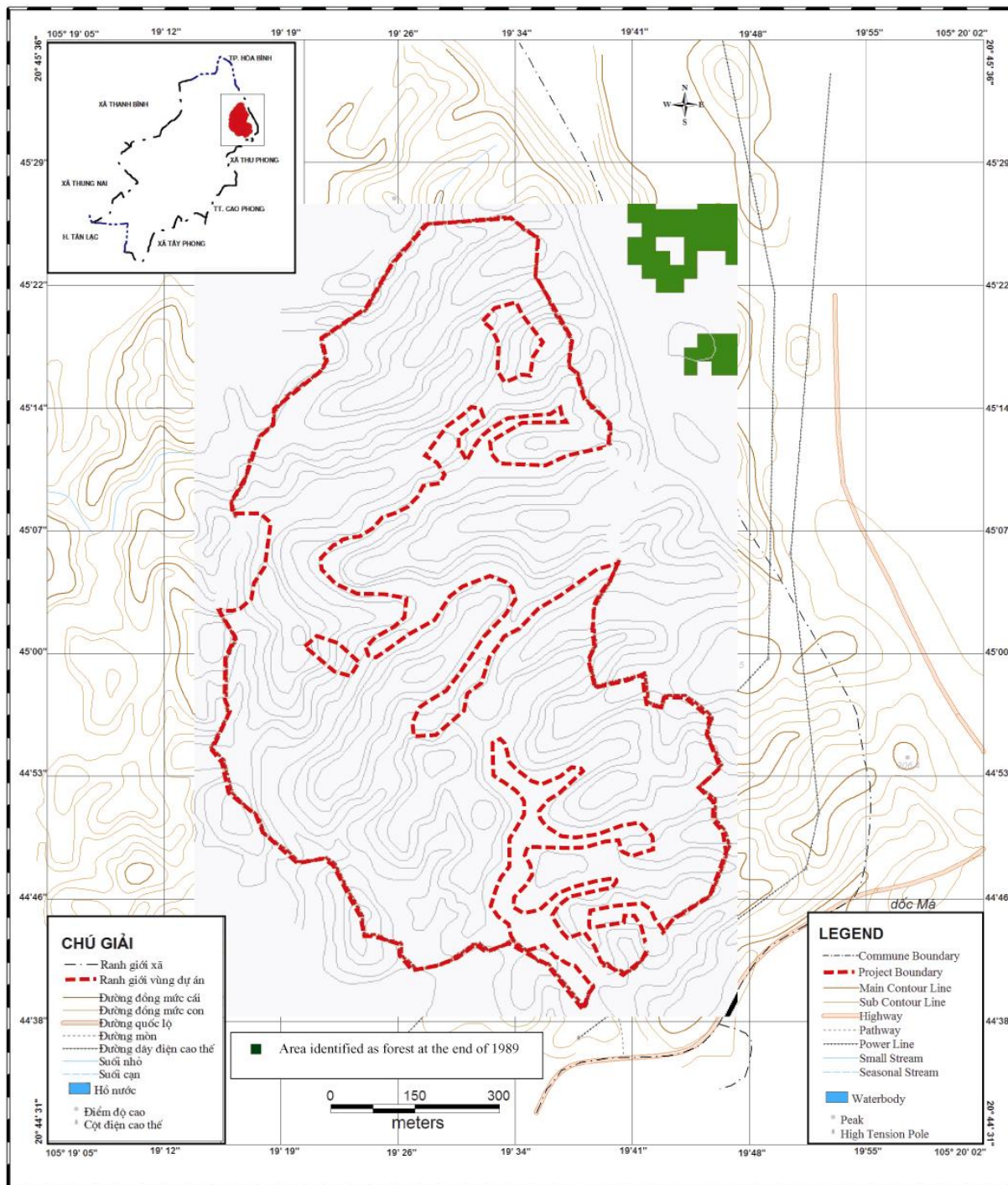
Map showing the Final Project Boundary (Site-3: Xuan Phong Lake Area)

## BẢN ĐỒ RANH GIỚI VÙNG DỰ ÁN AR-CDM (VÙNG - 4)

AR-CDM PROJECT BOUNDARY MAP (Site - 4)

XÓM BẮC SƠN - BẮC PHONG - CAO PHONG - HÒA BÌNH

BAC SON VILLAGE - BAC PHONG - CAO PHONG - HOA BINH

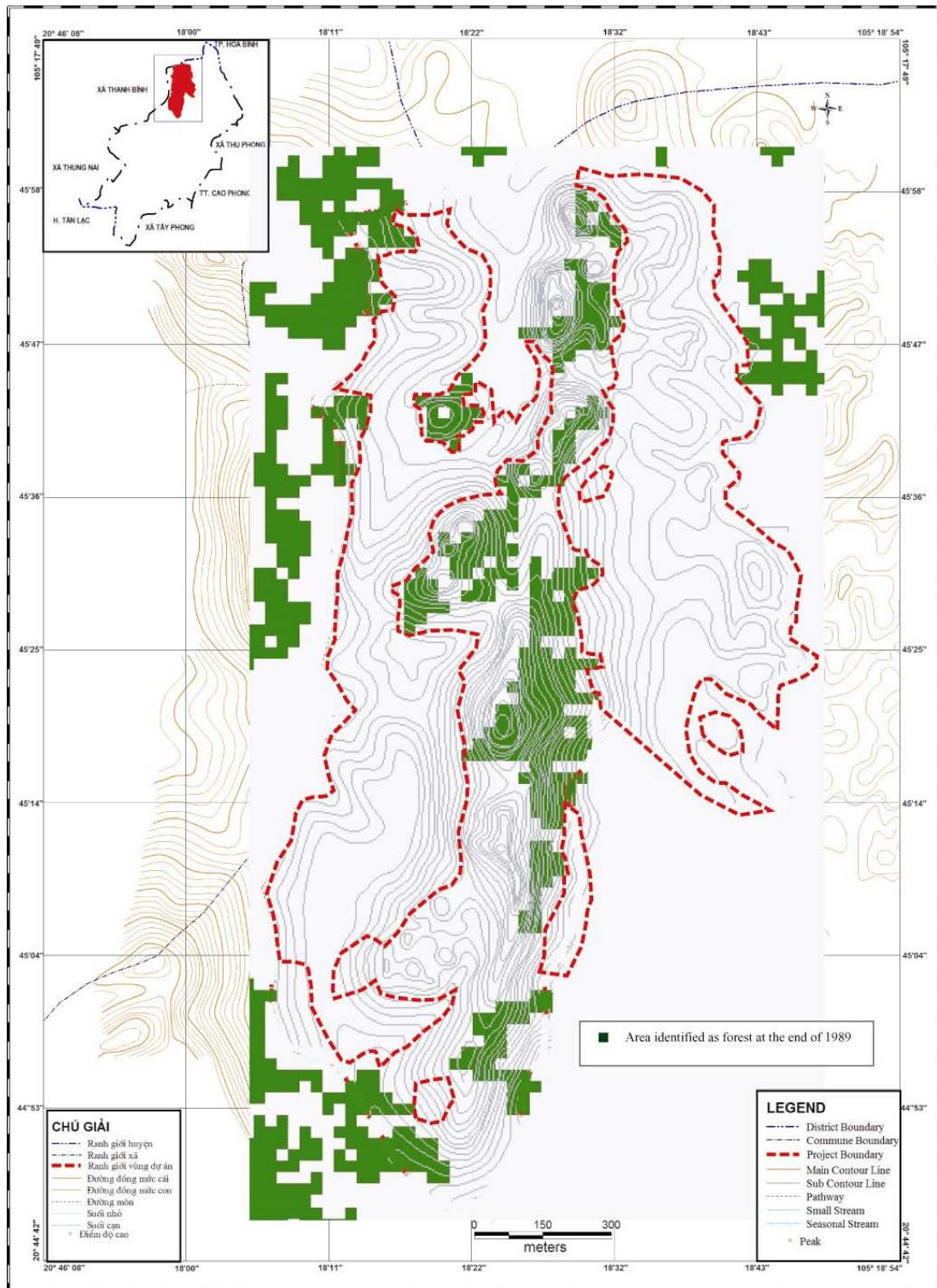


Map showing the Final Project Boundary (Site-4: Bac Phong East Area)

## BẢN ĐỒ RANH GIỚI VÙNG DỰ ÁN AR-CDM (VÙNG - 5)

AR-CDM PROJECT BOUNDARY MAP (Site - 5)

XÓM MÃ - BẮC PHONG - CAO PHONG - HÒA BÌNH  
 MA VILLAGE - BAC PHONG - CAO PHONG - HOA BINH



Map showing the Final Project Boundary (Site-5: Bac Phong West Area)

Appendix-8

*Questionnaire for socio-economic  
interview survey and the results*

### Household Questionnaire Survey

Respondent	<input type="text"/>
Age	<input type="text"/>
Sex	<input type="text"/>
Education	<input type="text"/>
Commune	<input type="text"/>
Village	<input type="text"/>
Date of Survey	<input type="text"/>

Select one

- 1. have never attended school
- 2. have completed some years of primary school
- 3. have completed primary school
- 4. have completed secondary school
- 5. have completed high school
- 6. have completed university

Checked by:

#### PART 1: Basic Information

1-1 What is your ethnicity? Select one answer

- 1. Muong
- 2. Kinh
- 3. Other (  )

1-2 Household members: Answer nos. of HH members

- 1. How many persons are there in your household?
- 2. How many of them are at working age?  
(15 to 60 years old for male, 15 to 54 years old for female)
- 3. How many of working age members earn an income?

1-3 What is the education level of your household members? Answer nos. of HH members

- 1. have never attended school
- 2. have completed some years of primary school
- 3. have completed primary school
- 4. have completed secondary school
- 5. have completed high school
- 6. have completed university

1-4 Have you participated in training and extension activities of forest sector before? Select one answer

- 1. Yes
- 2. No.

#### PART 2: Land and Land Use

2-1 Do you remember the land use of the project area in 1989? Select one answer

- 1. Yes, it was grass land with shrub.  Xuan Phong (lake area)
- 2. Yes, it was shrub.  Xuan Phong (Northeast area)
- 3. Yes, it was shrub with few trees.  Xuan Phong (North area)
- 4. Yes, it was forest with large trees.  Bac Phong (lake area)
- 5. No, I don't remember it.  Bac Phong (west area)

2-2 Do you remember when forest in the project area was cleared?

1. Yes, less than 10 years ago
2. Yes, between 10 and 20 years ago
3. Yes, between 20 and 30 years ago
4. Yes, between 30 and 40 years ago
5. Yes, between 40 and 50 years ago
6. Yes, more than 50 years ago
7. No, I don't remember it.

Select one answer

<input type="checkbox"/>	Xuan Phong (lake area)
<input type="checkbox"/>	Xuan Phong (Northeast area)
<input type="checkbox"/>	Xuan Phong (North area)
<input type="checkbox"/>	Bac Phong (lake area)
<input type="checkbox"/>	Bac Phong (west area)

2-3 Has land been allocated to your household?

1. Yes
2. No

Select one answer

2-4 How much land do your household have?

1. Agricultural land
2. Forest land

allocated	<input type="text"/>	sao	rented	<input type="text"/>	sao	others	<input type="text"/>	sao
allocated	<input type="text"/>	sao	rented	<input type="text"/>	sao	others	<input type="text"/>	sao

2-5 What crops do your household grow?

1. Paddy (irrigated)
2. Paddy (rainfed)
3. Upland rice
4. Maize
5. Cassava
6. Sugarcane (for eating)
7. Sugarcane (for processing sugar and juice)
8. Orange
9. Others ( )

Check

<input type="checkbox"/>
<input type="checkbox"/>
<input type="checkbox"/>
<input type="checkbox"/>
<input type="checkbox"/>
<input type="checkbox"/>
<input type="checkbox"/>
<input type="checkbox"/>
<input type="checkbox"/>

Crop area in 2006

<input type="text"/>	sao
<input type="text"/>	sao
<input type="text"/>	sao
<input type="text"/>	sao
<input type="text"/>	sao
<input type="text"/>	sao
<input type="text"/>	sao
<input type="text"/>	sao
<input type="text"/>	sao

2-6 How do you use the allocated forest land in the AR-CDM project area?

1. For crop production (use as permanent crop land)
2. For crop production (slush and burn)
3. For tree plantation (invested by myself)
4. For tree plantation (supported by project/program, e.g., 326/661 programs)
5. For grazing of livestock
6. For collection of firewood
7. Not used at all
8. Other ( )

Select all answers

2-7 Why don't you establish forest plantation on the forest land allocated to your household?

(only those who did not establish forest plantation in their forest land shall answer)

1. Lack of capital
2. Financial and material support from government program is not sufficient.
3. The land is not productive enough.
4. Forest does not generate income quickly.
5. Don't know how to manage forest.
6. Shortage of labor force
7. Other ( )

Answer all in numerical order

<input type="text"/>
<input type="text"/>
<input type="text"/>
<input type="text"/>
<input type="text"/>
<input type="text"/>
<input type="text"/>



- 2-8 How do your household want to use the forest land allocated? Select up to two answers
1. Plant trees
  2. Plant grass or fodder trees for livestock feed
  3. Plant fruit trees
  4. Cultivate annual crops (specify if any: \_\_\_\_\_)
  5. Keep it as grazing land
  6. No idea
  7. Other ( )

**PART 3: Livestock**

- 3-1 How may livestock do your household raise?
- |              | <u>Matured (&gt; 1year old)</u>   | <u>Young (&lt; 1 year old)</u>    |
|--------------|-----------------------------------|-----------------------------------|
| 1. Buffalo   | Answer heads <input type="text"/> | Answer heads <input type="text"/> |
| 2. Cattle    | Answer heads <input type="text"/> | Answer heads <input type="text"/> |
| 3. Pig       | Answer heads <input type="text"/> | Answer heads <input type="text"/> |
| 4. Goat      | Answer heads <input type="text"/> | Answer heads <input type="text"/> |
| 5. Poultry   | Answer heads <input type="text"/> | Answer heads <input type="text"/> |
| 6. Other ( ) | Answer heads <input type="text"/> | Answer heads <input type="text"/> |

- 3-2 What is the weight of buffalo and cattle?
- |            | <u>Matured (&gt; 1year old)</u> | <u>Young (&lt; 1 year old)</u> |
|------------|---------------------------------|--------------------------------|
| 1. Buffalo | <input type="text"/> kg         | <input type="text"/> kg        |
| 2. Cattle  | <input type="text"/> kg         | <input type="text"/> kg        |

- 3-3 What is the purpose of livestock raising?
- |              | <u>Work animal</u>             | <u>Selling</u>                 | <u>Home consumption</u>        |
|--------------|--------------------------------|--------------------------------|--------------------------------|
| 1. Buffalo   | Check <input type="checkbox"/> | Check <input type="checkbox"/> | Check <input type="checkbox"/> |
| 2. Cattle    | Check <input type="checkbox"/> | Check <input type="checkbox"/> | Check <input type="checkbox"/> |
| 3. Pig       |                                | Check <input type="checkbox"/> | Check <input type="checkbox"/> |
| 4. Goat      |                                | Check <input type="checkbox"/> | Check <input type="checkbox"/> |
| 5. Poultry   |                                | Check <input type="checkbox"/> | Check <input type="checkbox"/> |
| 6. Other ( ) | Check <input type="checkbox"/> | Check <input type="checkbox"/> | Check <input type="checkbox"/> |

- 3-4 How many days in a week do you graze your buffalo and cattle?
- |  |                  | <u>Answer days per week</u> |
|--|------------------|-----------------------------|
|  | In winter        | <input type="text"/> days   |
|  | In other seasons | <input type="text"/> days   |

- 3-5 How many hours do you graze your buffalo and cattle in a day?
- |  |                  | <u>Answer hours/day</u>    |
|--|------------------|----------------------------|
|  | In winter        | <input type="text"/> hours |
|  | In other seasons | <input type="text"/> hours |

- 3-6 Where do you graze your buffalo and cattle?
- |                            |                        |
|----------------------------|------------------------|
| In the AR-CDM project area | <input type="text"/> % |
| In other area              | <input type="text"/> % |

- 3-7 Do you or your village designate grazing lands for buffalo and cattle? Select one answer
1. Yes, it is designated within village land only
  2. Yes, it is designated even out of village land
  3. No, free grazing

- 3-8 Does your household plan to increase livestock? Select one answer
1. Yes
  2. No.

## PART 4: Socio-economic and Environmental Conditions

4-1 What was household's income last year? (by source)

Selling agricultural products

- |   |                      |          |
|---|----------------------|----------|
| 1. Paddy                                      | <input type="text"/> | VND/year |
| 2. Maize                                      | <input type="text"/> | VND/year |
| 3. Cassava                                    | <input type="text"/> | VND/year |
| 4. Sugarcane (for eating)                     | <input type="text"/> | VND/year |
| 5. Sugarcane (for processing sugar and juice) | <input type="text"/> | VND/year |
| 6. Other crops ( )                            | <input type="text"/> | VND/year |

Selling domestic animals

- |             |                      |          |
|-------------|----------------------|----------|
| 7. Buffalo  | <input type="text"/> | VND/year |
| 8. Cattle   | <input type="text"/> | VND/year |
| 9. Pig      | <input type="text"/> | VND/year |
| 10. Goat    | <input type="text"/> | VND/year |
| 11. Poultry | <input type="text"/> | VND/year |

Forestry activities

- |  |                      |          |
|--|----------------------|----------|
| 12. Wages from contracted activities                 | <input type="text"/> | VND/year |
| 13. Selling forest products (fuelwood, timber, NTFP) | <input type="text"/> | VND/year |

Other sources

- |   |                      |          |
|---|----------------------|----------|
| 14. Salary from company/public office           | <input type="text"/> | VND/year |
| 15. Income from private business                | <input type="text"/> | VND/year |
| 16. Labor wage (other than forestry activities) | <input type="text"/> | VND/year |
| 17. Other ( )                                   | <input type="text"/> | VND/year |

TOTAL	<input type="text"/>	VND/year
-------	----------------------	----------

4-2 Is the annual income of household stable?

- |                                 |               |
|---------------------------------|---------------|
| 1. Stable and increasing        | 3. Decreasing |
| 2. Rather stable but decreasing | 4. Unstable   |

*Select one answer*

4-3 What was household's expenditure last year?

Production expenditures

- |  |                      |          |
|--|----------------------|----------|
| 1. Agricultural production (seeds, fertilizers, etc)           | <input type="text"/> | VND/year |
| 2. Livestock grazing (young animal, feed, veterinary fee, etc) | <input type="text"/> | VND/year |
| 3. Forest development  | <input type="text"/> | VND/year |

Living expenditures

- |   |                      |          |
|---|----------------------|----------|
| 4. Food   | <input type="text"/> | VND/year |
| 5. Health care  | <input type="text"/> | VND/year |
| 6. Education  | <input type="text"/> | VND/year |
| 7. Communication/ transportation                            | <input type="text"/> | VND/year |
| 8. Special occasions (funeral, wedding, festival, etc.)     | <input type="text"/> | VND/year |
| 9. Other living expenditures (electricity, fuel, tax, etc.) | <input type="text"/> | VND/year |

TOTAL	<input type="text"/>	VND/year
-------	----------------------	----------

- 4-4 What is main fuel of your household? Check all answers  
 1. Firewood *(if select "fuelwood", answer questions 4-6-4-10)*   
 2. Coal   
 3. Biogas   
 4. Other (  )
- 4-5 What type of stove does your household use? Select one answer   
 1. Three-legged stove (tripod)  
 2. Improved stove  
 3. Other (  )
- 4-6 How many bundles of firewood does your household consume per month? 1 bundle = \_\_\_\_\_kg  
 In winter (December to February)  bundles / month  
 Other months  bundles / month
- 4-7 How do you get firewood?  
 1. Collected by family members:  %  
 2. Purchased from others:  %
- 4-8 Who among your family members mainly collect firewood? Select one answer   
 1. Adult male member  
 2. Adult female member  
 3. Child male member  
 4. Child female member
- 4-9 How often do your household members collect firewood from hills? Select one answer   
 0. None  
 1. Once a week  
 2. Twice a week  
 3. Three times a week  
 4. More than four times a week
- 4-10 Where do your household members collect firewood? Select all answers   
 0. Do not collect it  
 1. At the AR-CDM project area (estimate % of firewood collected from the project area)  %  
 2. At designated area determined by village  
 3. Anywhere within the commune where firewood is available.  
 4. Anywhere even out of commune where firewood is available.
- 4-11 Do you feel firewood collection become more difficult than before? Select one answer   
 1. Yes  
 2. No.  
 3. Neither Yes nor No (same as before)

**PART 5: Current Problems**

5-1 What are major problems on crop production?

1. Insufficient land to cultivate
2. Poor soil conditions
3. Shortage of capital to buy inputs (seeds, fertilizers, etc.)
4. Unstable selling proces of crops
5. Unstable production
6. Shortage of work force
7. Unstable weather condition
8. Diseases and insect damage
9. Other ( )
10. Other ( )

Example

2
1
3
5
4

Answer in order


5-2 What are major problems on livestock raising?

1. Shortage of feed
2. Shortage of grazing land
3. Breeding technic
4. Unstable selling price of livestock
5. Shortage of work force
6. Diseases
7. Other ( )
8. Other ( )

Example

3
1
4
2

Answer in order


**PART 6: Expectations to the Project**

6-1 What kind of trees do you want to grow on your forest land allocated and what are the reasons?

1. Fast growing trees (specify if any: \_\_\_\_\_)
2. Indigenous trees (specify if any: \_\_\_\_\_)
3. Fruit trees (specify if any: \_\_\_\_\_)
4. Fodder trees (specify if any: \_\_\_\_\_)
5. Bamboo
6. Other (specify if any: \_\_\_\_\_)
7. None

Answer reasons


*Reasons: (a) Having knowledge and experience on the trees  
 (b) Other person grow it with good results  
 (c) Can earn income in the future  
 (d) For environmental protection  
 (e) Other ( )*

6-2 AR-CDM pilot project requires "collective protection and management of forest" under specified rules.

Are you willing to participate in the Project?

Select one answer

--

1. Yes, I will.
2. Yes, but depending on the project's support for reforestation and the rules.
3. Can not decide now.
4. No.

6-3 Are you still willing to participate in the Project even if you will be required to control grazing of livestock in the project area? *Select one answer*  
  
 1. Yes. *(go to question 6-4)*  
 2. No.

6-4 What will you do if livestock grazing in the project area will be restricted? *Select all answer(s)*  
  
 1. Will do it in other area (outside of the project area)  
 2. Will reduce number of livestock or stop raising it.  
 3. (please specify \_\_\_\_\_)

6-5 What will you do if firewood collection in the AR-CDM project area will be restricted? *Select all answer(s)*  
  
 1. Will do it in other area (outside of the project area)  
 2. Use other type of fuel  
 3. Other (please specify \_\_\_\_\_)

6-6 What do you want to know more about the Project? *Answer in numerical order*  
  
  
  
  
  
 1. Financial and material support for reforestation from the Project.  
 2. Forest protection and management rules.  
 3. Benefit sharing rule.  
 4. Estimated income from the forest in the future.  
 5. Other ( \_\_\_\_\_ )

6-7 What do you expect from the Project? *Answer in numerical order*  
  
  
  
  
  
 1. Financial and material support for reforestation from the Project.  
 2. Technical support (training) for reforestation and forest management  
 3. Technical support (training) for income generation/improvement  
 4. Environmental protection in the area  
 5. Other ( \_\_\_\_\_ )

6-8 Any questions, suggestions or comments?

***Thank you very much for your participation!***

No.	Question	Option	Site-1&2 Xuan Phong (North and Northeast area)		Site-3 Xuan Phong (Lake area)		Site-4 Bac Phong (East area)		Site-5 Bac Phong (West area)		Total		
			(persons)	(%)	(persons)	(%)	(persons)	(%)	(persons)	(%)	(persons)	(%)	
1-0	Information of interviewee												
		Number of interviewee	75	100.0%	102	100.0%	48	100.0%	62	100.0%	287	100.0%	
		(Male)	44	58.7%	48	47.1%	29	60.4%	50	80.6%	171	59.6%	
		(Female)	31	41.3%	54	52.9%	19	39.6%	12	19.4%	116	40.4%	
		Average age of interviewee	40.6		38.4		43.6		42.3		40.7		
1-1	What is your ethnicity?	Ethnicity	(households)	(%)	(households)	(%)	(households)	(%)	(households)	(%)	(households)	(%)	
		1 Muong	75	100.0%	101	99.0%	15	31.3%	30	48.4%	221	77.0%	
		2 Kinh	0	0.0%	1	1.0%	33	68.8%	0	0.0%	34	11.8%	
		3 Dao	0	0.0%	0	0.0%	0	0.0%	31	50.0%	31	10.8%	
		4 Thai	0	0.0%	0	0.0%	0	0.0%	1	1.6%	1	0.3%	
		Total No. of household	75	-	102	-	48	-	62	-	287	-	
1-2	1. Household members:		(persons/household)		(persons/household)	(persons/household)		(persons/household)		(persons/household)			
		Average number of household member	4.99		4.92		4.85		5.26		5.00		
		Number of household members	(households)	(%)	(households)	(%)	(households)	(%)	(households)	(%)	(households)	(%)	
		1 1 person	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	
		2 2 persons	0	0.0%	2	2.0%	1	2.1%	1	1.6%	4	1.4%	
		3 3 persons	5	6.7%	10	9.8%	3	6.3%	8	12.9%	26	9.1%	
		4 4 persons	25	33.3%	28	27.5%	17	35.4%	12	19.4%	82	28.6%	
		5 5 persons	22	29.3%	34	33.3%	18	37.5%	15	24.2%	89	31.0%	
		6 6 persons	14	18.7%	16	15.7%	6	12.5%	11	17.7%	47	16.4%	
		7 7 persons	7	9.3%	7	6.9%	0	0.0%	9	14.5%	23	8.0%	
		8 8 persons	2	2.7%	4	3.9%	1	2.1%	6	9.7%	13	4.5%	
		9 9 persons	0	0.0%	1	1.0%	1	2.1%	0	0.0%	2	0.7%	
		10 10 persons	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	
		11 11 persons	0	0.0%	0	0.0%	1	2.1%	0	0.0%	1	0.3%	
		Total No. of household	75	-	102	-	48	-	62	-	287	-	
		Total population	(persons)	(%)	(persons)	(%)	(persons)	(%)	(persons)	(%)	(persons)	(%)	
			374	26.1%	502	35.0%	233	16.2%	326	22.7%	1,435	100.0%	
		2. Number of household members in working age? (15 to 60 years old for male, 15 to 54 years old for female)		(persons/household)		(persons/household)	(persons/household)		(persons/household)		(persons/household)		
			Average number of household member in working age	3.17		3.25		3.44		3.48		3.31	
			Number of household members	(households)	(%)	(households)	(%)	(households)	(%)	(households)	(%)	(households)	(%)
			1 1 person	1	1.3%	2	2.0%	2	4.2%	2	3.2%	7	2.4%
			2 2 persons	28	37.3%	34	33.3%	12	25.0%	17	27.4%	91	31.7%
3 3 persons	16		21.3%	18	17.6%	13	27.1%	16	25.8%	63	22.0%		
4 4 persons	21		28.0%	34	33.3%	12	25.0%	8	12.9%	75	26.1%		
5 5 persons	6		8.0%	12	11.8%	5	10.4%	14	22.6%	37	12.9%		
6 6 persons	2		2.7%	2	2.0%	2	4.2%	5	8.1%	11	3.8%		
7 7 persons	1		1.3%	0	0.0%	1	2.1%	0	0.0%	2	0.7%		
8 8 persons	0		0.0%	0	0.0%	1	2.1%	0	0.0%	1	0.3%		
Total No. of household	75	-	102	-	48	-	62	-	287	-			
Total population in working age	(persons)	(%)	(persons)	(%)	(persons)	(%)	(persons)	(%)	(persons)	(%)			
	238	25.0%	332	34.9%	165	17.4%	216	22.7%	951	100.0%			
3. How many of working age members earn an income?		(persons/household)		(persons/household)	(persons/household)		(persons/household)		(persons/household)				
	Average number of household member earn in income	2.61		2.88		2.85		3.05		2.84			
	Number of household members	(households)	(%)	(households)	(%)	(households)	(%)	(households)	(%)	(households)	(%)		
	1 1 person	5	6.7%	3	2.9%	2	4.3%	2	3.2%	12	4.2%		
	2 2 persons	41	54.7%	47	46.1%	21	45.7%	22	35.5%	131	46.0%		
	3 3 persons	13	17.3%	18	17.6%	14	30.4%	22	35.5%	67	23.5%		
	4 4 persons	12	16.0%	27	26.5%	6	13.0%	6	9.7%	51	17.9%		
	5 5 persons	3	4.0%	7	6.9%	0	0.0%	7	11.3%	17	6.0%		
	6 6 persons	0	0.0%	0	0.0%	1	2.2%	3	4.8%	4	1.4%		
	7 7 persons	1	1.3%	0	0.0%	1	2.2%	0	0.0%	2	0.7%		
	8 8 persons	0	0.0%	0	0.0%	1	2.2%	0	0.0%	1	0.4%		
Total No. of answer	75	-	102	-	46	-	62	-	285	-			
Total population in working age earn an income	(persons)	(%)	(persons)	(%)	(persons)	(%)	(persons)	(%)	(persons)	(%)			
	196	24.2%	294	36.3%	131	16.2%	189	23.3%	810	100.0%			
1-3	Have you participated in training and extension activities of forest sector before?		(persons)	(%)	(persons)	(%)	(persons)	(%)	(persons)	(%)	(persons)	(%)	
		1 Yes	32	42.7%	45	46.9%	15	31.3%	7	11.3%	99	35.2%	
		2 No	43	57.3%	51	53.1%	33	68.8%	55	88.7%	182	64.8%	
Total No. of answer	75	-	96	-	48	-	62	-	281	-			

No.	Question	Option	Area										Total	
			Site-1 Xuan Phong (North area)		Site-2 Xuan Phong (Northeast area)		Site-3 Xuan Phong (Lake area)		Site-4 Bac Phong (East area)		Site-5 Bac Phong (West area)			
			(persons)	(%)	(persons)	(%)	(persons)	(%)	(persons)	(%)	(persons)	(%)	(persons)	(%)
2-1	Do you remember the land use of the project area in 1989? (multiple answers allowed)	1 Yes, it was grass land with shrub.	8	11.8%	9	11.0%	35	32.4%	33	38.8%	28	42.4%	113	27.6%
		2 Yes, it was shrub.	23	33.8%	54	65.9%	35	32.4%	27	31.8%	18	27.3%	157	38.4%
		3 Yes, it was shrub with few trees.	31	45.6%	10	12.2%	23	21.3%	16	18.8%	13	19.7%	93	22.7%
		4 Yes, it was forest with large trees.	0	0.0%	2	2.4%	0	0.0%	8	9.4%	4	6.1%	14	3.4%
		5 No, I don't remember it.	6	8.8%	7	8.5%	15	13.9%	1	1.2%	3	4.5%	32	7.8%
		Total No. of answer	68	-	82	-	108	-	85	-	66	-	409	-
2-2	Do you remember when forest in the project area was cleared? (multiple answers allowed)	1 Yes, less than 10 years ago	1	1.3%	2	2.5%	4	4.0%	3	3.5%	2	3.1%	12	2.9%
		2 Yes, between 10 and 20 years ago	2	2.5%	10	12.3%	3	3.0%	21	24.4%	6	9.2%	42	10.2%
		3 Yes, between 20 and 30 years ago	25	31.6%	16	19.8%	30	30.3%	28	32.6%	30	46.2%	129	31.5%
		4 Yes, between 30 and 40 years ago	1	1.3%	0	0.0%	1	1.0%	8	9.3%	7	10.8%	17	4.1%
		5 Yes, between 40 and 50 years ago	1	1.3%	10	12.3%	8	8.1%	4	4.7%	1	1.5%	24	5.9%
		6 Yes, more than 50 years ago	3	3.8%	7	8.6%	1	1.0%	0	0.0%	0	0.0%	11	2.7%
		7 No, I don't remember it.	46	58.2%	36	44.4%	52	52.5%	22	25.6%	19	29.2%	175	42.7%
		Total No. of answer	79	-	81	-	99	-	86	-	65	-	410	-

No.	Question	Option	Site-1&2 Xuan Phong (North and Northeast area)		Site-3 Xuan Phong (Lake area)		Site-4 Bac Phong (East area)		Site-5 Bac Phong (West area)		Total				
			(households)	(%)	(households)	(%)	(households)	(%)	(households)	(%)	(households)	(%)			
2-3	Has land allocated to your household?														
		1	Yes	75	100.0%	102	100.0%	47	97.9%	62	100.0%	286	99.7%		
		2	No	0	0.0%	0	0.0%	1	2.1%	0	0.0%	1	0.3%		
			Total No. of answer	75	-	102	-	48	-	62	-	287	-		
2-4	How much land do your household have? (multiple answers allowed) (Av. area means average area among household which has these land)	Agricultural land		(households)	Av. area (ha)	(households)	Av. area (ha)	(households)	Av. area (ha)	(households)	Av. area (ha)	(households)	Av. area (ha)		
		1	Allocated	75	0.28	98	0.29	48	0.17	60	0.24	281	0.25		
		2	Rented	7	0.20	4	0.34	6	0.17	6	0.07	23	0.18		
		3	Others	2	0.05	15	0.23	15	0.24	7	0.33	39	0.24		
			Total No. of answer	84	-	117	-	69	-	73	-	343	-		
		Forest land		(households)	Av. area (ha)	(households)	Av. area (ha)	(households)	Av. area (ha)	(households)	Av. area (ha)	(households)	Av. area (ha)	(households)	Av. area (ha)
		1	Allocated	74	2.02	99	1.12	47	1.26	62	2.23	282	1.62		
		2	Rented	2	14.00	2	1.68	2	0.15	2	3.80	8	4.91		
		3	Others	2	0.15	4	1.10	5	1.12	5	0.45	16	0.78		
			Total No. of answer	78	-	105	-	54	-	69	-	306	-		
2-5	What crops do your household grow? (multiple answers allowed) (Av. area means average area among household which cultivates each products)			(households)	Av. area (ha)	(households)	Av. area (ha)	(households)	Av. area (ha)	(households)	Av. area (ha)	(households)	Av. area (ha)		
		1	Paddy (irrigated)	66	0.20	78	0.16	41	0.15	53	0.14	238	0.16		
		2	Maize	46	0.14	70	0.09	27	0.19	53	0.21	196	0.15		
		3	Cassava	48	0.16	55	0.13	25	0.12	45	0.16	173	0.14		
		4	Sugarcane (for eating)	27	0.19	22	0.19	44	0.22	52	0.32	145	0.25		
		5	Sugarcane (for processing sugar and juice)	19	0.26	57	0.22	24	0.21	19	0.28	119	0.23		
		6	Paddy (rainfed)	22	0.11	35	0.14	3	0.12	13	0.12	73	0.13		
		7	Upland rice	12	0.19	2	0.18	1	0.20	3	0.83	18	0.29		
		8	Watermelon	4	0.29	0	0.00	0	0.00	10	0.00	14	0.29		
		9	Other (Sweet potato, Mango, Tea etc)	2	0.04	6	0.24	4	0.22	11	0.48	23	0.98		
2-6	How do you use the allocated forest land in the AR-CDM project area? (multiple answers allowed)			(persons)	(%)	(persons)	(%)	(persons)	(%)	(persons)	(%)	(persons)	(%)		
		1	Not used at all	38	37.3%	74	68.5%	25	36.2%	23	28.4%	160	44.4%		
		2	For tree plantation (supported by project/program, e.g., 326/661 programs)	22	21.6%	16	14.8%	4	5.8%	4	4.9%	46	12.8%		
		3	For crop production (slush and burn)	5	4.9%	3	2.8%	14	20.3%	21	25.9%	43	11.9%		
		4	For crop production (use as permanent crop land)	15	14.7%	6	5.6%	8	11.6%	13	16.0%	42	11.7%		
		5	For tree plantation (invested by myself)	14	13.7%	7	6.5%	9	13.0%	10	12.3%	40	11.1%		
		6	For grazing of livestock	7	6.9%	0	0.0%	5	7.2%	3	3.7%	15	4.2%		
		7	For collection of firewood	1	1.0%	2	1.9%	3	4.3%	3	3.7%	9	2.5%		
		8	Other (Plantation by PAM project, etc.)	0	0.0%	0	0.0%	1	1.4%	4	4.9%	5	1.4%		
			Total No. of answer	102	-	108	-	69	-	81	-	360	-		



No.	Question	Option	Site-1&2 Xuan Phong (North and Northeast area)		Site-3 Xuan Phong (Lake area)		Site-4 Bac Phong (East area)		Site-5 Bac Phong (West area)		Total		
			(points)	(order)	(points)	(order)	(points)	(order)	(points)	(order)	(points)	(order)	
2-7	Why don't you establish forest plantation on the forest land allocated to your household?" (multiple answers allowed)	1 Lack of capital	584	1	791	1	364	1	448	1	2187	1	
		2 Financial and material support from government program is not sufficient.	481	2	616	2	229	3	354	2	1680	2	
		3 The land is not productive enough.	397	3	548	3	189	5	324	3	1458	3	
		4 Forest does not generate income quickly.	366	5	513	5	219	4	308	5	1406	5	
		5 Don't know how to manage forest.	361	6	516	4	243	2	317	4	1437	4	
		6 Shortage of labor force	394	4	502	6	163	6	283	6	1342	6	
		7 Unclear boundary	0	-	42	7	0	-	0	-	42	7	
		8 Difficulty in access	4	7	6	10	0	-	29	7	39	8	
		9 Can not select suitable species	0	-	30	8	0	-	0	-	30	10	
		10 Other (Forest cannot be protected, etc.)	0	-	7	9	24	7	0	-	31	9	
	(No. of those who selected as 1st priority)			(persons)	(%)	(persons)	(%)	(persons)	(%)	(persons)	(%)	(persons)	(%)
		1 Lack of capital	71	94.7%	94	88.7%	36	67.9%	48	71.6%	249	82.7%	
		2 Financial and material support from government program is not sufficient.	3	4.0%	1	0.9%	4	7.5%	2	3.0%	10	3.3%	
		3 The land is not productive enough.	0	0.0%	1	0.9%	0	0.0%	6	9.0%	7	2.3%	
		4 Forest does not generate income quickly.	0	0.0%	1	0.9%	5	9.4%	3	4.5%	9	3.0%	
		5 Don't know how to manage forest.	1	1.3%	5	4.7%	4	7.5%	2	3.0%	12	4.0%	
		6 Shortage of labor force	0	0.0%	2	1.9%	2	3.8%	5	7.5%	9	3.0%	
		7 Unclear boundary	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	
		8 Difficulty in access	0	0.0%	0	0.0%	0	0.0%	1	1.5%	1	0.3%	
		9 Can not select suitable species	0	0.0%	2	1.9%	0	0.0%	0	0.0%	2	0.7%	
10 Other (Forest cannot be protected, etc.)	0	0.0%	0	0.0%	2	3.8%	0	0.0%	2	0.7%			
	Total No. of answer	75	-	106	-	53	-	67	-	301	-		
2-8	How do your household want to use the forest land allocated? (multiple answer allowed)		(persons)	(%)	(persons)	(%)	(persons)	(%)	(persons)	(%)	(persons)	(%)	
		1 Plant trees	75	72.8%	99	78.6%	48	80.0%	60	80.0%	282	77.5%	
		2 Plant grass or fodder trees for livestock	1	1.0%	3	2.4%	2	3.3%	0	0.0%	6	1.6%	
		3 Plant fruit trees	16	15.5%	11	8.7%	2	3.3%	4	5.3%	33	9.1%	
		4 Cultivate annual crops	11	10.7%	5	4.0%	4	6.7%	11	14.7%	31	8.5%	
		5 Keep it as grazing land	0	0.0%	1	0.8%	0	0.0%	0	0.0%	1	0.3%	
		6 No idea	0	0.0%	7	5.6%	3	5.0%	0	0.0%	10	2.7%	
		7 Other (tea cultivation)	0	0.0%	0	0.0%	1	1.7%	0	0.0%	1	0.3%	
	Total No. of answer	103	-	126	-	60	-	75	-	364	-		

No.	Question	Option	Site-1&2 Xuan Phong (North and Northeast area)		Site-3 Xuan Phong (Lake area)		Site-4 Bac Phong (East area)		Site-5 Bac Phong (West area)		Total		
			(average head/ household)	(total head)	(average head/ household)	(total head)	(average head/ household)	(total head)	(average head/ household)	(total head)	(average head/ household)	(total head)	
3-1	How many livestock do your household raise?  Matured (> 1 year old) Young (< 1 year old)	1 Buffalo	Total	1.05	79	1.82	184	2.02	97	1.55	96	1.59	456
			(Mature)	0.79	59	1.40	141	1.33	64	1.05	65	1.15	329
			(Young)	0.27	20	0.42	43	0.69	33	0.50	31	0.44	127
		2 Cattle	Total	2.05	152	0.52	53	0.58	28	0.24	15	0.87	248
			(Mature)	1.54	114	0.34	35	0.35	17	0.11	7	0.60	173
			(Young)	0.51	38	0.18	18	0.23	11	0.13	8	0.26	75
		3 Pig	Total	3.57	268	4.54	463	3.75	180	2.94	182	3.81	1,093
			(Mature)	1.59	119	0.89	91	1.10	53	0.92	57	1.11	320
			(Young)	1.99	149	3.65	372	2.65	127	2.02	125	2.69	773
		4 Goat	Total	1.40	105	1.18	120	0.04	2	0.00	0	0.79	227
			(Mature)	0.97	73	0.63	64	0.00	0	0.00	0	0.48	137
			(Young)	0.43	32	0.55	56	0.04	2	0.00	0	0.31	90
		5 Poultry	Total	25.73	1,930	35.57	3,628	22.71	1,090	21.15	1,311	27.73	7,959
			(Mature)	9.95	746	9.70	989	6.60	317	4.73	293	8.17	2,345
			(Young)	15.79	1,184	25.87	2,639	16.10	773	16.42	1,018	19.56	5,614
		6 Dog	Total	0.16	12	0.13	13	0.02	1	0.15	9	0.12	35
			(Mature)	0.04	3	0.02	2	0.00	0	0.02	1	0.02	6
			(Young)	0.12	9	0.11	11	0.02	1	0.13	8	0.10	29
3-2	What is the weight of buffalo and cattle?  Matured (> 1 year old) Young (< 1 year old)	1 Buffalo	Total	(average weight/head in kg)		(average weight/head in kg)		(average weight/head in kg)		(average weight/head in kg)		(average weight/head in kg)	
			(Mature)	251.8		256.3		217.2		216.1		239.3	
			(Young)	301.8		301.2		288.3		275.6		294.3	
		2 Cattle	Total	104.2		108.8		79.1		91.3		97.0	
			(Mature)	196.1		181.5		139.2		127.0		181.1	
			(Young)	233.8		239.1		187.1		215.0		227.2	
3-3	What is the purpose of livestock raising?		Purpose	(persons)	(%)	(persons)	(%)	(persons)	(%)	(persons)	(%)	(persons)	(%)
		1 Buffalo	Work animal	41	66.1%	76	69.7%	330	93.2%	33	67.3%	480	83.6%
			Selling	16	25.8%	29	26.6%	21	5.9%	16	32.7%	82	14.3%
			Self consumption	5	8.1%	4	3.7%	3	0.8%	0	0.0%	12	2.1%
		2 Cattle	Work animal	15	38.5%	8	34.8%	6	42.9%	1	33.3%	30	38.0%
			Selling	23	59.0%	13	56.5%	7	50.0%	2	66.7%	45	57.0%
			Self consumption	1	2.6%	2	8.7%	1	7.1%	0	0.0%	4	5.1%
		3 Pig	Selling	62	70.5%	83	73.5%	35	87.5%	52	72.2%	232	74.1%
			Self consumption	26	29.5%	30	26.5%	5	12.5%	20	27.8%	81	25.9%
		4 Goat	Selling	9	64.3%	7	77.8%	1	100.0%	0	0.0%	17	70.8%
			Self consumption	5	35.7%	2	22.2%	0	0.0%	0	0.0%	7	29.2%
		5 Poultry	Selling	57	50.9%	77	50.3%	25	42.4%	43	43.9%	202	47.9%
			Self consumption	55	49.1%	76	49.7%	34	57.6%	55	56.1%	220	52.1%
		6 Dog	Selling	7	63.6%	2	50.0%	0	0.0%	2	66.7%	11	57.9%
			Self consumption	4	36.4%	2	50.0%	1	100.0%	1	33.3%	8	42.1%

No.	Question	Option	Site-1&2 Xuan Phong (North and Northeast area)		Site-3 Xuan Phong (Lake area)		Site-4 Bac Phong (East area)		Site-5 Bac Phong (West area)		Total		
3-4	How many days in a week do you graze your buffalo and cattle?		(days/week)		(days/week)		(days/week)		(days/week)		(days/week)		
		1	in winter	6.4	6.6	6.8	7.0	6.7	6.9				
		2	in other seasons	7.0	6.8	6.8	7.0	6.9					
3-5	How many hours do you graze your buffalo and cattle in a day?		(hours/day)		(hours/day)		(hours/day)		(hours/day)		(hours/day)		
		1	in winter	6.6	6.8	4.9	5.0	6.1	6.6				
		2	in other seasons	7.7	7.2	4.9	5.1	6.6					
3-6	Where do you graze your buffalo and cattle?		(%)		(%)		(%)		(%)		(%)		
		1	CDM area	30.2	35.9	57.6	48.3	44.5					
		2	Other area	69.8	64.1	42.4	51.7	55.5					
3-7	Do you or your village designate grazing lands for buffalo and cattle?		(persons)	(%)	(persons)	(%)	(persons)	(%)	(persons)	(%)	(persons)	(%)	
		1	Yes, it is designated within village land only	27	46.6%	35	38.5%	10	23.8%	21	41.2%	93	38.4%
		2	Yes, it is designated even out of village land	23	39.7%	26	28.6%	5	11.9%	3	5.9%	57	23.6%
		3	No, free grazing	8	13.8%	30	33.0%	27	64.3%	27	52.9%	92	38.0%
			Total No. of answer	58	-	91	-	42	-	51	-	242	-
3-8	Does your household plan to increase livestock?		(persons)	(%)	(persons)	(%)	(persons)	(%)	(persons)	(%)	(persons)	(%)	
		1	Yes	73	98.6%	96	95.0%	35	72.9%	55	88.7%	259	90.9%
		2	No	1	1.4%	5	5.0%	13	27.1%	7	11.3%	26	9.1%
			Total No. of answer	74	-	101	-	48	-	62	-	285	-

No.	Item	Option	Site-1&2 Xuan Phong (North and Northeast area)		Site-3 Xuan Phong (Lake area)		Site-4 Bac Phong (East area)		Site-5 Bac Phong (West area)		Total	
			(1,000VND/year)		(1,000VND/year)		(1,000VND/year)		(1,000VND/year)		(1,000VND/year)	
4-1	What was household's income last year? (by source)	Selling agricultural products	<b>6,017</b>		<b>7,221</b>		<b>12,828</b>		<b>12,078</b>		<b>8,879</b>	
		1 Paddy	2,141		2,840		1,811		2,315		2,373	
		2 Maize	426		618		1,683		1,269		884	
		3 Cassava	581		344		303		601		455	
		4 Sugarcane (for eating)	1,108		618		6,823		6,785		3,103	
		5 Sugarcane (for processing)	1,553		2,735		2,144		1,006		1,953	
		6 Other crops (tea leaves, taro, watermelon, longan, lychee, etc.)	207		67		64		102		110	
		Selling domestic animals	<b>4,636</b>		<b>6,287</b>		<b>4,782</b>		<b>3,329</b>		<b>4,965</b>	
		1 Buffalo	755		1,955		777		1,511		1,350	
		2 Cattle	1,033		562		330		0		526	
		3 Pig	2,127		3,142		3,517		1,486		2,579	
		4 Goat	393		181		4		0		169	
		5 Poultry	327		447		154		249		324	
		6 Other (fish, duck, dog, etc.)	0		0		0		83		18	
		Forestry activities	<b>543</b>		<b>712</b>		<b>591</b>		<b>683</b>		<b>641</b>	
		1 Wages from contracted activities	444		655		570		606		575	
		2 Selling forest products (fuelwood, timber, etc.)	99		57		21		77		66	
		Other sources	<b>3,720</b>		<b>3,504</b>		<b>11,070</b>		<b>2,888</b>		<b>4,671</b>	
		1 Salary from company/public office	456		718		4,285		917		1,279	
		2 Income from private business	171		805		1,349		673		699	
		3 Labor wage (other than forestry activities)	1,760		231		2,002		476		976	
4 Other (work as government officer, work at medical center, etc.)	1,333		1,750		3,434		823		1,717			
Total (1000VND/year)	14,915		17,724		29,271		18,978		19,157			
Total (1000VND/month)	1,243		1,477		2,439		1,582		1,596			
Total (US\$/year) (@1US\$=16,000VND)	932		1,108		1,829		1,186		1,197			
Total (US\$/month) (@1US\$=16,000VND)	78		92		152		99		100			
4-2	Is the annual income of household stable?	(households)	(%)	(households)	(%)	(households)	(%)	(households)	(%)	(households)	(%)	
		1 Stable and increasing	18	24.3%	26	27.4%	21	46.7%	16	25.8%	81	29.3%
		2 Rather stable but decreasing	12	16.2%	16	16.8%	5	11.1%	14	22.6%	47	17.0%
		3 Decreasing	0	0.0%	3	3.2%	0	0.0%	3	4.8%	6	2.2%
		4 Unstable	44	59.5%	50	52.6%	19	42.2%	29	46.8%	142	51.4%
	Total No. of answer	74	-	95	-	45	-	62	-	276	-	
4-3	What was household's expenditure last year?	(1,000VND/year)	(1,000VND/year)	(1,000VND/year)	(1,000VND/year)	(1,000VND/year)	(1,000VND/year)					
		Production expenditures	1,349		1,372		4,938		3,555		2,429	
		1 Agricultural production (seeds, fertilizers, etc)	1,480		1,891		2,747		1,025		1,690	
		2 Livestock raising (young animal, feed, veterinary fee, etc)	1,223		550		400		56		513	
		3 Forest development										
		Production expenditures	4,752		5,976		6,483		5,958		5,744	
		1 Food	678		785		1,484		969		904	
		2 Health care	1,159		1,539		3,193		1,248		1,602	
		3 Education	596		859		1,324		774		854	
		4 Communication/ transportation	1,077		962		2,545		1,347		1,328	
		5 Special occasions (funeral, wedding, festival, etc.)	537		858		1,357		776		833	
		6 Other living expenditures (electricity, fuel, tax, etc.)	10,978		12,841		21,700		15,668		14,481	
		Total (VND/year)	915		1,070		1,808		1,306		1,207	
Total (VND/month)	686		803		1,356		979		905			
Total (US\$/year) (@1US\$=16,000VND)	57		67		113		82		75			
	Total (US\$/month) (@1US\$=16,000VND)											

No.	Item	Option	Site-1&2 Xuan Phong (North and Northeast area)		Site-3 Xuan Phong (Lake area)		Site-4 Bac Phong (East area)		Site-5 Bac Phong (West area)		Total		
			(households)	(%)	(households)	(%)	(households)	(%)	(households)	(%)	(households)	(%)	
4-4	What is main fuel of your household? (multiple answers allowed)	1 Firewood	75	96.2%	95	94.1%	43	65.2%	62	96.9%	275	89.0%	
		2 Coal	0	0.0%	3	3.0%	10	15.2%	1	1.6%	14	4.5%	
		3 Biogas	0	0.0%	2	2.0%	5	7.6%	1	1.6%	8	2.6%	
		4 Other (electricity, etc.)	3	3.8%	1	1.0%	8	12.1%	0	0.0%	12	3.9%	
		Total No. of answer	78	-	101	-	66	-	64	-	309	-	
4-5	What type of stove does your household use? (multiple answers allowed)	1 Three-legged stove (tripod)	75	100.0%	95	97.9%	42	63.6%	62	98.4%	274	91.0%	
		2 Improved stove	0	0.0%	1	1.0%	8	12.1%	0	0.0%	9	3.0%	
		3 Gas	0	0.0%	1	1.0%	5	7.6%	0	0.0%	6	2.0%	
		4 Electricity	0	0.0%	0	0.0%	8	12.1%	1	1.6%	9	3.0%	
		5 Other	0	0.0%	0	0.0%	3	4.5%	0	0.0%	3	1.0%	
Total No. of answer	75	-	97	-	66	-	63	-	301	-			
4-6	How many bundles of firewood does your household consume per month?	(kg/bundle)			(kg/bundle)		(kg/bundle)		(kg/bundle)		(kg/bundle)		
		Average weight of 1 bundle	14.1		14.9		20.0		16.4		15.1		
		(bundle/month)	(kg/month)	(bundle/month)	(kg/month)	(bundle/month)	(kg/month)	(bundle/month)	(kg/month)	(bundle/month)	(kg/month)	(bundle/month)	(kg/month)
		1 In winter (December to February)	29.7	417.9	36.5	544.3	29.7	593.0	43.1	706.9	35.1	529.5	
		2 Other months (March to November)	20.8	292.0	26.6	396.7	22.3	445.6	32.0	524.9	25.6	385.9	
Total No. of answer	276	3,882	349	5,203	289	5,789	417	6,845	335	5,061			
4-7	How do you get firewood?	(%)		(%)		(%)		(%)		(%)			
		1 Collected by family members:		99.1%		95.5%		95.2%		90.7%		95.6%	
		2 Purchased from others:		0.9%		4.5%		4.8%		9.3%		4.4%	
Total		100.0%		100.0%		100.0%		100.0%		100.0%			
4-8	Who among your family members mainly collect firewood? (multiple answers allowed)	(households)	(%)	(households)	(%)	(households)	(%)	(households)	(%)	(households)	(%)		
		1 Adult male member	17	18.5%	50	31.1%	24	36.9%	31	28.4%	122	28.6%	
		2 Adult female member	63	68.5%	82	50.9%	25	38.5%	55	50.5%	225	52.7%	
		3 Child male member	8	8.7%	15	9.3%	9	13.8%	13	11.9%	45	10.5%	
		4 Child female member	4	4.3%	14	8.7%	7	10.8%	10	9.2%	35	8.2%	
Total No. of answer	92	-	161	-	65	-	109	-	427	-			
4-9	How often do your household members collect firewood from hills?	0 None	0	0.0%	0	0.0%	2	4.9%	0	0.0%	2	0.7%	
		1 Once a week	17	22.7%	12	12.9%	13	31.7%	7	11.9%	49	18.3%	
		2 Twice a week	42	56.0%	42	45.2%	14	34.1%	20	33.9%	118	44.0%	
		3 Three times a week	14	18.7%	34	36.6%	5	12.2%	22	37.3%	75	28.0%	
		4 More than four times a week	2	2.7%	5	5.4%	7	17.1%	10	16.9%	24	9.0%	
Total No. of answer	75	-	93	-	41	-	59	-	268	-			
4-10	Where do your household members collect firewood? (multiple answers allowed)	(households)	(%)	(households)	(%)	(households)	(%)	(households)	(%)	(households)	(%)		
		0 Do not collect it	0	0.0%	0	0.0%	0	0.0%	2	2.4%	2	0.5%	
		1 At the AR-CDM project area	21	16.7%	26	19.1%	26	49.1%	39	46.4%	112	28.1%	
		2 At designated area determined by village	29	23.0%	41	30.1%	7	13.2%	7	8.3%	84	21.1%	
		3 Anywhere within the commune where firewood is available.	34	27.0%	44	32.4%	11	20.8%	30	35.7%	119	29.8%	
4 Anywhere even out of commune where firewood is available.	42	33.3%	25	18.4%	9	17.0%	6	7.1%	82	20.6%			
Total No. of answer	126	-	136	-	53	-	84	-	399	-			
4-11	Do you feel firewood collection become more difficult than before?	(households)	(%)	(households)	(%)	(households)	(%)	(households)	(%)	(households)	(%)		
		1 Yes	69	92.0%	86	90.5%	42	95.5%	58	96.7%	255	93.1%	
		2 No.	3	4.0%	1	1.1%	1	2.3%	0	0.0%	5	1.8%	
		3 Neither Yes nor No (same as before)	3	4.0%	8	8.4%	1	2.3%	2	3.3%	14	5.1%	
Total No. of answer	75	-	95	-	44	-	60	-	274	-			

No.	Question	Option	Site-1&2 Xuan Phong (North and Northeast area)		Site-3 Xuan Phong (Lake area)		Site-4 Bac Phong (East area)		Site-5 Bac Phong (West area)		Total	
			(point)	(order)	(point)	(order)	(point)	(order)	(point)	(order)	(point)	(order)
5-1	What are major problems on crop production?	1 Insufficient land to cultivate	358	4	569	3	175	8	236	7	1,338	4
		2 Poor soil conditions	410	2	585	2	261	2	336	3	1,592	2
		3 Shortage of capital to buy inputs (seeds, fertilizers, etc.)	456	1	660	1	288	1	422	1	1,826	1
		4 Unstable selling process of crops	288	7	447	6	201	6	287	5	1,223	7
		5 Unstable production	329	6	422	7	185	7	275	6	1,211	8
		6 Shortage of work force	288	7	420	8	224	4	302	4	1,234	6
		7 Unstable weather condition	348	5	453	5	214	5	307	3	1,322	5
		8 Diseases and insect damage	365	3	479	4	228	3	381	2	1,453	3
		9 Lack of water	0	-	56	9	23	9	106	8	185	9
		10 Difficulty in access to market	0	-	0	-	0	-	6	10	6	11
		11 Quality of seeds	0	-	0	-	0	-	22	9	22	10
	(No. of those who selected as 1st priority)	1 Insufficient land to cultivate	6	7.4%	27	22.0%	7	12.3%	2	2.7%	42	12.5%
		2 Poor soil conditions	5	6.2%	23	18.7%	12	21.1%	11	14.9%	51	15.2%
		3 Shortage of capital to buy inputs (seeds, fertilizers, etc.)	40	49.4%	39	31.7%	19	33.3%	27	36.5%	125	37.3%
		4 Unstable selling process of crops	0	0.0%	4	3.3%	1	1.8%	1	1.4%	6	1.8%
		5 Unstable production	2	2.5%	5	4.1%	1	1.8%	3	4.1%	11	3.3%
		6 Shortage of work force	3	3.7%	2	1.6%	8	14.0%	5	6.8%	18	5.4%
		7 Unstable weather condition	11	13.6%	10	8.1%	2	3.5%	8	10.8%	31	9.3%
		8 Diseases and insect damage	14	17.3%	6	4.9%	5	8.8%	11	14.9%	36	10.7%
		9 Lack of water	0	0.0%	7	5.7%	2	3.5%	5	6.8%	14	4.2%
		10 Difficulty in access to market	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%
		11 Quality of seeds	0	0.0%	0	0.0%	0	0.0%	1	1.4%	1	0.3%
Total No. of answer	81	-	123	-	57	-	74	-	335	-		
5-2	What are major problems on livestock raising?	1 Shortage of feed	388	1	525	1	200	2	315	1	1,428	1
		2 Shortage of grazing land	240	5	371	4	163	4	199	6	973	5
		3 Breeding technique	293	2	410	2	201	1	274	3	1,178	2
		4 Unstable selling price of livestock	251	4	356	5	174	3	225	4	1,006	4
		5 Shortage of work force	212	6	283	6	125	6	206	5	826	6
		6 Diseases	256	3	382	3	157	5	279	2	1,074	3
		7 Lack in capital	0	-	6	7	0	-	16	7	22	7
		8 Other (Difficulty in transportation, etc)	0	-	0	-	0	-	6	8	6	8
	(No. of those who selected as 1st priority)	1 Shortage of feed	51	65.4%	62	52.1%	18	32.1%	30	40.0%	161	49.1%
		2 Shortage of grazing land	3	3.8%	10	8.4%	8	14.3%	4	5.3%	25	7.6%
		3 Breeding technique	15	19.2%	19	16.0%	11	19.6%	14	18.7%	59	18.0%
		4 Unstable selling price of livestock	4	5.1%	4	3.4%	7	12.5%	5	6.7%	20	6.1%
		5 Shortage of work force	2	2.6%	2	1.7%	4	7.1%	1	1.3%	9	2.7%
		6 Diseases	3	3.8%	21	17.6%	8	14.3%	19	25.3%	51	15.5%
		7 Lack in capital	0	0.0%	1	0.8%	0	0.0%	1	1.3%	2	0.6%
		8 Other (Difficulty in transportation, etc)	0	0.0%	0	0.0%	0	0.0%	1	1.3%	1	0.3%
		Total No. of answer	78	-	119	-	56	-	75	-	328	-

No.	Question	Option		Reason (answers)							
		Category	Species	(answers)		(a)	(b)	(c)	(d)	(e)	
6-1	What kind of trees do you want to grow on your forest land allocated and what are the reasons?  (a) Having knowledge and experience on the trees (b) Other person grow it with good results (c) Can earn income in the future (d) For environmental protection (e) Other	1	Fast growing trees	Acacia mangium	229	55.7%	61	151	106	48	51
				Acacia hybrid	15	3.6%	5	22	13	7	5
				Eucalyptus sp.	31	7.5%	1	5	12	5	0
				Other	2	0.5%	0	1	1	0	0
							0.0%	50.0%	50.0%	0.0%	0.0%
		2	Indigenous trees	Chukrasia sp.	5	1.2%	1	1	2	3	1
				Canarium sp.	4	1.0%	0	1	0	2	1
				Melia azedarach L.	3	0.7%	2	0	2	1	0
				Other (Erythrophleum sp., Dracontomelon sp., Vercinia montana, etc)	4	1.0%	0	0	1	3	0
							0.0%	0.0%	25.0%	75.0%	0.0%
		3	Fruits tree	Mango	22	5.4%	3	2	6	0	0
				Longan	13	3.2%	1	0	3	0	1
				Lychee	10	2.4%	1	0	2	0	1
				Dracontamelon sp.	4	1.0%	0	0	1	2	1
				Other (Grapefruits, Jackfruits, Plum, Apricot, etc)	8	1.9%	0	0	3	0	0
							0.0%	0.0%	100.0%	0.0%	0.0%
		4	Fodder tree		22	5.4%	2	3	13	3	1
							9.1%	13.6%	59.1%	13.6%	4.5%
		5	Bamboo		6	1.5%	0	2	4	0	0
							0.0%	33.3%	66.7%	0.0%	0.0%
		6	Other (Pinus sp., perennial plant, bamboo)		33	8.0%	1	1	14	11	6
							3.0%	3.0%	42.4%	33.3%	18.2%
			Total		411	100%					

No.	Question	Option	Site-1&2 Xuan Phong (North and Northeast area)		Site-3 Xuan Phong (Lake area)		Site-4 Bac Phong (East area)		Site-5 Bac Phong (West area)		Total	
			(persons)	(%)	(persons)	(%)	(persons)	(%)	(persons)	(%)	(persons)	(%)
6-2	AR-CDM pilot project requires "collective protection and management of forest" under specified rules. Are you willing to participate in the Project?	1 Yes, I will.	57	76.0%	89	88.1%	43	91.5%	57	93.4%	246	86.6%
		2 Yes, but depending on the project's support for reforestation and the rules.	18	24.0%	12	11.9%	4	8.5%	4	6.6%	38	13.4%
		3 Can not decide now.	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%
		4 No.	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%
		Total No. of answer	75	-	101	-	47	-	61	-	284	-
6-3	Are you still willing to participate in the Project even if you will be required to control grazing of livestock in the project area?	(persons)	(%)	(persons)	(%)	(persons)	(%)	(persons)	(%)	(persons)	(%)	
		1 Yes	75	100.0%	102	100.0%	48	100.0%	57	100.0%	282	100.0%
		2 No.	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%
	Total No. of answer	75	-	102	-	48	-	57	-	282	-	
6-4	What will you do if livestock grazing in the project area will be restricted? (multiple answers allowed)	(persons)	(%)	(persons)	(%)	(persons)	(%)	(persons)	(%)	(persons)	(%)	
		1 Will do it in other area (outside of the project area)	64	82.1%	79	71.2%	39	68.4%	40	69.0%	222	73.0%
		2 Will reduce number of livestock or stop raising it.	6	7.7%	14	12.6%	9	15.8%	7	12.1%	36	11.8%
		3 Will manage grazing	3	3.8%	13	11.7%	4	7.0%	7	12.1%	27	8.9%
		4 Protect trees	5	6.4%	0	0.0%	0	0.0%	0	0.0%	5	1.6%
		5 Planting high yield grass	0	0.0%	0	0.0%	3	5.3%	2	3.4%	5	1.6%
		6 Feed in cage at home	0	0.0%	5	4.5%	2	3.5%	2	3.4%	9	3.0%
		7 Other	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%
	Total No. of answer	78	-	111	-	57	-	58	-	304	-	
6-5	What will you do if firewood collection in the AR-CDM project area will be restricted? (multiple answers allowed)	(persons)	(%)	(persons)	(%)	(persons)	(%)	(persons)	(%)	(persons)	(%)	
		1 Will do it in other area (outside of the project area)	70	88.6%	78	75.7%	26	53.1%	40	62.5%	214	72.5%
		2 Use other type of fuel	9	11.4%	25	24.3%	19	38.8%	22	34.4%	75	25.4%
		3 Purchase from others	0	0.0%	0	0.0%	2	4.1%	1	1.6%	3	1.0%
		4 Other (Do not use firewood, Still collect from Project areas, etc)	0	0.0%	0	0.0%	2	4.1%	1	1.6%	3	1.0%
	Total No. of answer	79	-	103	-	49	-	64	-	295	-	
6-6	What do you want to know more about the Project? (multiple answers allowed)	(points)	(order)	(points)	(order)	(points)	(order)	(points)	(order)	(points)	(order)	
		1 Financial and material support for reforestation from the Project.	329	1	488	1	225	1	286	1	1,328	1
		2 Forest protection and management rules.	266	3	349	2	168	3	216	3	999	3
		3 Benefit sharing rule.	274	2	345	3	169	2	233	2	1,021	2
		4 Estimated income from the forest in the future.	210	4	282	4	114	4	166	4	772	4
	5 Other (Financial and technical support,	6	-	3	-	7	-	2	-	18	-	
	(No. of those who selected as 1st priority)	(persons)	(%)	(persons)	(%)	(persons)	(%)	(persons)	(%)	(persons)	(%)	
		1 Financial and material support for reforestation from the Project.	55	63.2%	89	76.1%	38	79.2%	44	65.7%	226	70.8%
		2 Forest protection and management rules.	19	21.8%	8	6.8%	5	10.4%	10	14.9%	42	13.2%
		3 Benefit sharing rule.	9	10.3%	15	12.8%	4	8.3%	10	14.9%	38	11.9%
4 Estimated income from the forest in the future.		4	4.6%	5	4.3%	1	2.1%	3	4.5%	13	4.1%	
5 Other (Financial and technical support,	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%		
	Total No. of answer	87	-	117	-	48	-	67	-	319	-	



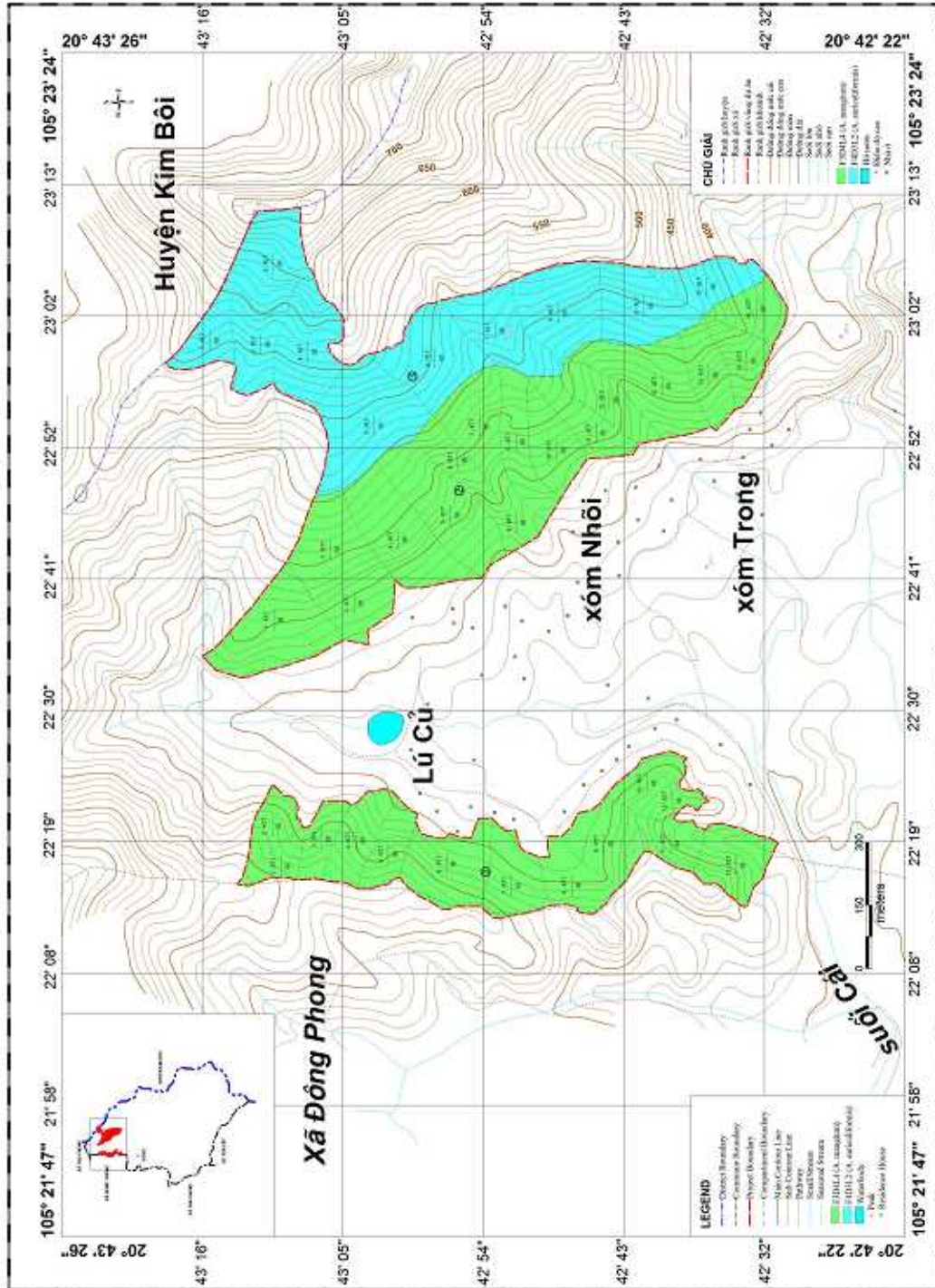
No.	Question	Option	Site-1&2 Xuan Phong (North and Northeast area)		Site-3 Xuan Phong (Lake area)		Site-4 Bac Phong (East area)		Site-5 Bac Phong (West area)		Total	
			(points)	(order)	(points)	(order)	(points)	(order)	(points)	(order)	(points)	(order)
6-7	What do you expect from the Project? (multiple answers allowed)	1 Financial and material support for reforestation from the Project.	361	1	484	1	224	1	300	1	1,369	1
		2 Technical support (training) for reforestation and forest management	295	2	393	2	174	2	229	2	1,091	2
		3 Technical support (training) for income generation/improvement	253	3	341	3	162	3	220	3	976	3
		4 Environmental protection in the area	179	4	258	4	124	4	167	4	728	4
		5 Other (Establishment of payment procedure, etc.)	2	-	3	-	0	-	15	-	20	-
	(No. of those who selected as 1st priority)	1 Financial and material support for reforestation from the Project.	65	71.4%	88	74.6%	38	71.7%	53	73.6%	244	73.1%
		2 Technical support (training) for reforestation and forest management	12	13.2%	17	14.4%	7	13.2%	9	12.5%	45	13.5%
		3 Technical support (training) for income generation/improvement	9	9.9%	10	8.5%	4	7.5%	5	6.9%	28	8.4%
		4 Environmental protection in the area	5	5.5%	3	2.5%	4	7.5%	2	2.8%	14	4.2%
		5 Other (Establishment of payment procedure, etc.)	0	0.0%	0	0.0%	0	0.0%	3	4.2%	3	0.9%
		Total No. of answer	91	-	118	-	53	-	72	-	334	-
6-8	Any questions, suggestions or comments?	1 We are willing to participate to PJT	8	30.8%	17	23.6%	9	20.5%	7	19.4%	41	23.0%
		2 We expect PJT be soon carried out	3	11.5%	28	38.9%	6	13.6%	8	22.2%	45	25.3%
		3 We expect technical support by PJT	4	15.4%	7	9.7%	11	25.0%	7	19.4%	29	16.3%
		4 We expect financial support by PJT	1	3.8%	4	5.6%	11	25.0%	5	13.9%	21	11.8%
		5 We expect material and infrastructure supplied by PJT	2	7.7%	1	1.4%	2	4.5%	3	8.3%	8	4.5%
		6 We expect improvement of our life by PJT implementation	0	0.0%	7	9.7%	0	0.0%	1	2.8%	8	4.5%
		7 Regulation for forest protection should be developed	0	0.0%	1	1.4%	1	2.3%	2	5.6%	4	2.2%
		8 We would like to get more information	0	0.0%	2	2.8%	1	2.3%	1	2.8%	4	2.2%
		9 Other (PJT implementation should be ensured, long-term support are required.	8	30.8%	5	6.9%	3	6.8%	2	5.6%	18	10.1%
		Total No. of answer	26	-	72	-	44	-	36	-	178	-

Appendix-9

*Planting design maps of of the project*

**BẢN ĐỒ THIẾT KẾ TRỒNG RỪNG DỰ ÁN AR-CDM (VÙNG 1&2)**  
**MAP OF PLANTING DESIGN FOR AR-CDM PROJECT (Site 1&2)**

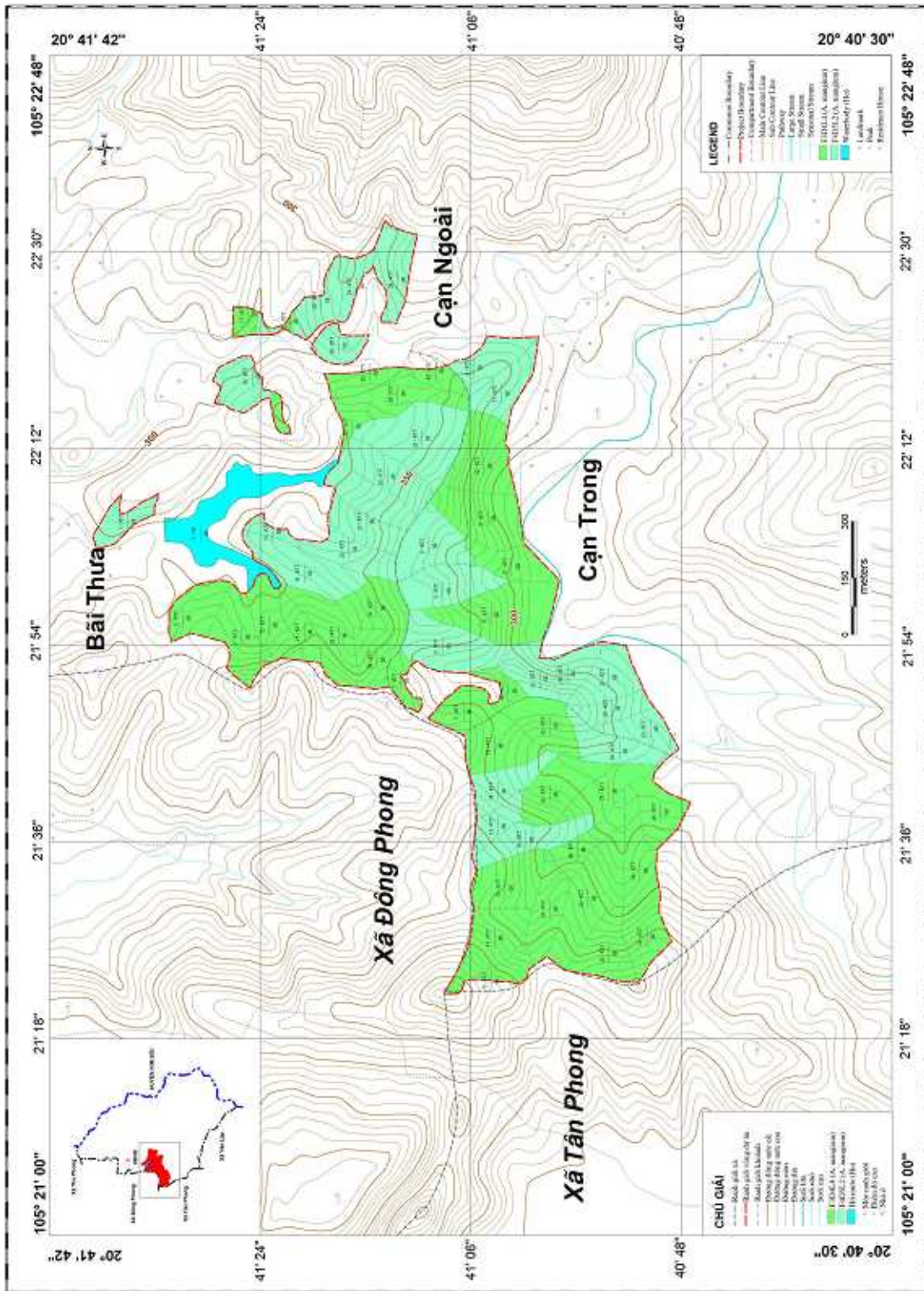
XÓM NHÔI - XUÂN PHONG - CAO PHONG - HÒA BÌNH  
 NHOCI VILLAGE - XUAN PHONG - CAO PHONG - HOA BINH



Planting Design Map of the Project (Site-1&2: Xuan Phong North & Northeast Areas)

**BẢN ĐỒ THIẾT KẾ TRỒNG RỪNG DỰ ÁN AR-CDM (VÙNG - 3)**  
**MAP OF PLANTING DESIGN FOR AR-CDM PROJECT (Site - 3)**

XÓM CÁN - XUÂN PHONG - CAO PHONG - HÒA BÌNH  
 CÁN VILLAGE - XUAN PHONG - CAO PHONG - HOA BINH



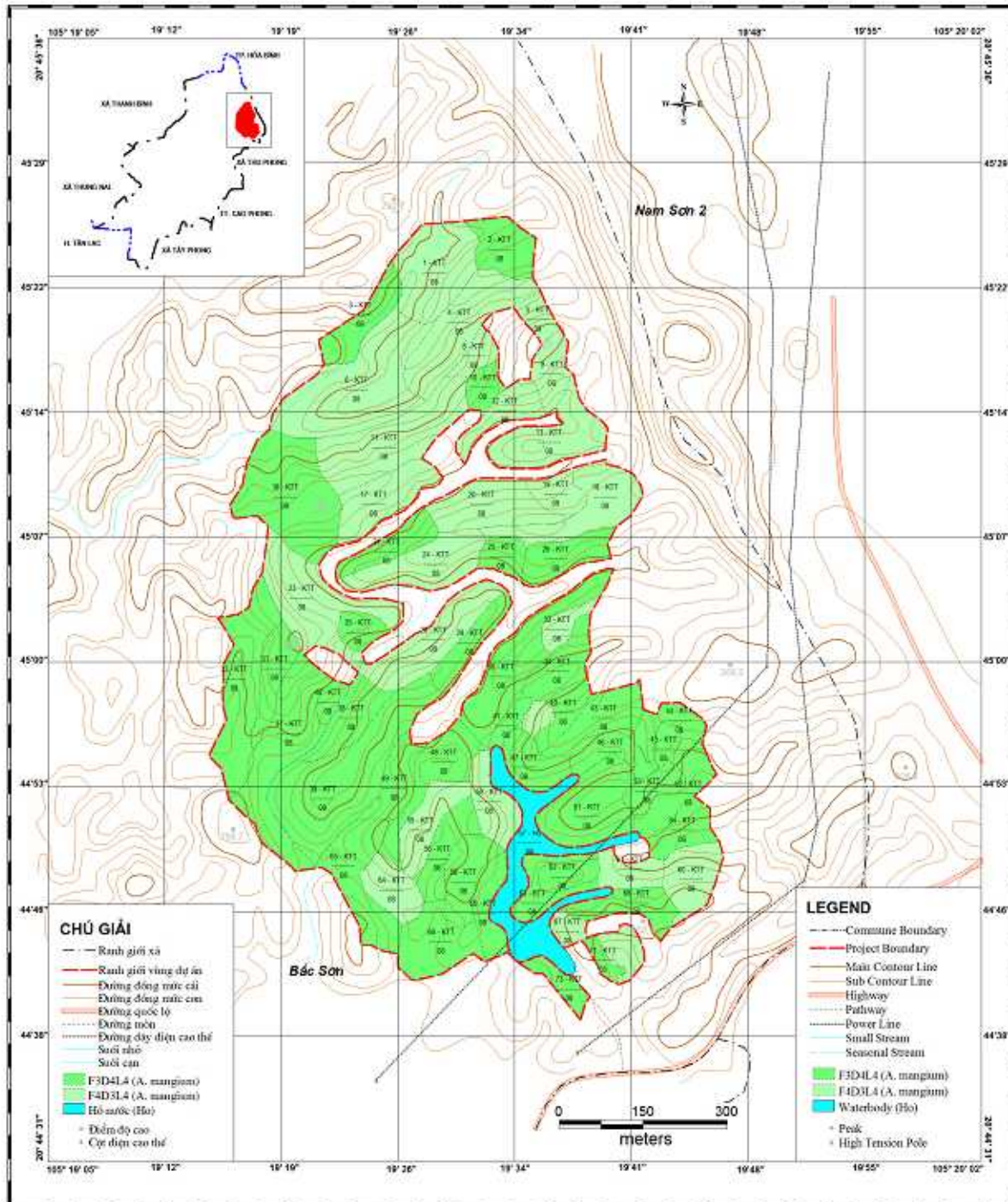
Planting Design Map of the Project (Site-3: Xuan Phong Lake Area)

## BẢN ĐỒ THIẾT KẾ TRỒNG RỪNG DỰ ÁN AR-CDM (VÙNG - 4)

MAP OF PLANTING DESIGN FOR AR-CDM PROJECT (Site - 4)

XÓM BẮC SƠN - BẮC PHONG - CAO PHONG - HÒA BÌNH

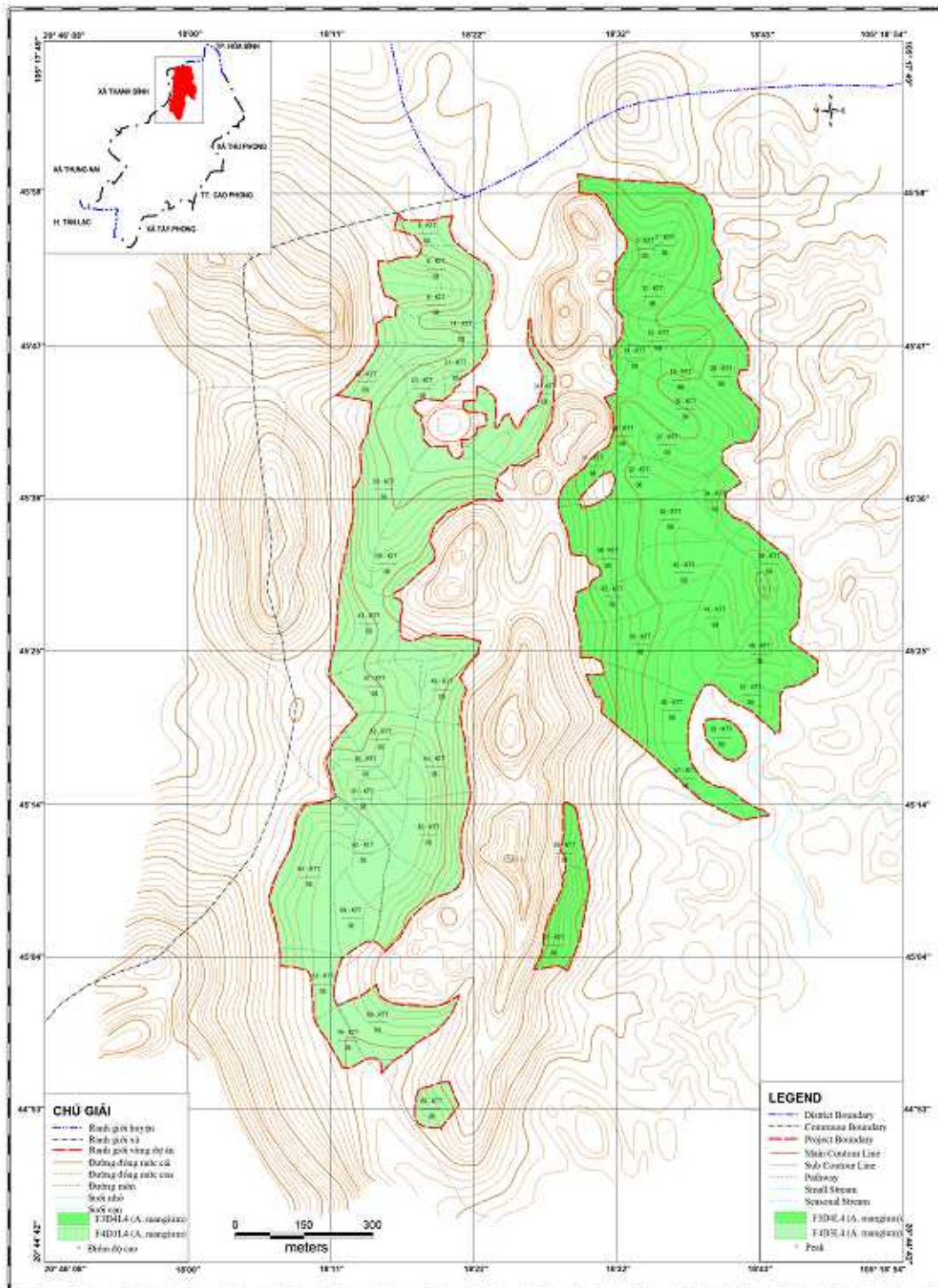
BAC SON VILLAGE - BAC PHONG - CAO PHONG - HOA BINH



Planting Design Map of the Project (Site-4: Bac Phong East Area)

**BẢN ĐỒ THIẾT KẾ TRỒNG RỪNG DỰ ÁN AR-CDM (VÙNG - 5)**  
**MAP OF PLANTING DESIGN FOR AR-CDM PROJECT (Site - 5)**

XÓM MÃ - BẮC PHONG - CAO PHONG - HÒA BÌNH  
 MA VILLAGE - BAC PHONG - CAO PHONG - HOA BINH



Planting Design Map of the Project (Site-5: Bac Phong West Area)

Appendix-10

*Tables and figures related to the small scale  
AR-CDM pilot project*

## Appendix-10 List of Tables and Figures related to the Small-scale AR-CDM Pilot Project

Table A10-1	Planting Area by Site, Species, and Technical Norm
Table A10-2	Estimated Cost per ha of Forest Planting & Tending
Table A10-3	Quantity and Cost of Materials per 1 ha (Acacia mangium)
Table A10-4	Quantity and Cost of Materials per 1 ha (Acacia auriculformis)
Table A10-5	Estimated Labor Cost per ha of Forest Planting and Protection (A. mangium: F4D3L4)
Table A10-6	Estimated Labor Cost per ha of Forest Planting and Protection (A. mangium: F3D4L4)
Table A10-7	Estimated Labor Cost per ha of Forest Planting and Protection (A. mangium: F4D5L2)
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**Table A10-1: Planting Area by Site, Species, and Technical Norm****Gross Planting Area**

Location	Village	Area by Technical Formula (ha)				Acacia auri.	Total (ha)
		F4D3L4	F3D4L4	F4D5L2	Total	F4D3L2	
<b>1. Xuan Phong commune:</b>							<b>203.63</b>
Site-1 (North)	Lu Cu villages		23.50		23.50		23.50
Site-2 (Northeast)	Nhoi villages		41.54		41.54	31.96	73.50
Site-3 (Lake)	Can village		59.87	46.76	106.63		106.63
<b>2. Bac Phong commune:</b>							<b>161.63</b>
Site-4 (Lake)	Bac Son village	30.37	41.29		71.66		71.66
Site-5 (West)	Ma village	46.33	43.64		89.97		89.97
<b>Total (ha)</b>		<b>76.70</b>	<b>209.84</b>	<b>46.76</b>	<b>333.30</b>	<b>31.96</b>	<b>365.26</b>

There are **in total four** technical formulas (F4D3L2 for *Acacia auriculiformis* planting, others for *Acacia mangium*); FDL is a symbol of a technical formula, among which:

- F: Soil type (four types) - (Details see annex 1)

- D: Vegetation type (six types) - (Details see annex 2)

- L: Distance (5 classes -Class 1: 0-1000m, Class 2: 1000-2000m, Class 3: 2000-3000m, Class 4: 3000-4000m, Class 5: 4000-5000m)

**Net Planting Area by Species & Technical Formula**

Site	Village	Acacia mangium				Acacia auri.	Total Net Area (ha)	Total Gross Area (ha)
		F4D3L4	F3D4L4	F4D5L2	Total	F4D3L2		
<b>I. Xuan Phong commune:</b>							<b>179.19</b>	<b>203.63</b>
Site-1 (North)	Lu Cu villages	0.00	20.68	0.00	20.68		20.68	23.50
Site-2 (Northeast)	Nhoi villages	0.00	36.56	0.00	36.56	28.12	64.68	73.50
Site-3 (Lake)	Can village	0.00	52.69	41.15	93.83		93.83	106.63
<b>II. Bac Phong commune:</b>							<b>129.30</b>	<b>161.63</b>
Site-4 (Lake)	Bac Son village	24.30	33.03	0.00	57.33		57.33	71.66
Site-5 (West)	Ma village	37.06	34.91	0.00	71.98		71.98	89.97
<b>Total (ha)</b>		<b>61.36</b>	<b>177.86</b>	<b>41.15</b>	<b>280.37</b>	<b>28.12</b>	<b>308.50</b>	<b>365.26</b>

FDL is a symbol of a technical formula, among which:

- F: Soil type (four types) - (Details see annex 1)

- D: Vegetation type (six types) - (Details see annex 2)

- L: Distance (5 classes -Class 1: 0-1000m, Class 2: 1000-2000m, Class 3: 2000-3000m, Class 4: 3000-4000m, Class 5: 4000-5000m)

**Net planting area by year and species**

Area Planted (ha)	Rotation	Technical formula	Year 1 (50%)	Year 2 (50%)	Year 3 (0%)	Year 4	Total (100%)
Acacia mangium	15 years	F4D3L4	30.68	30.68	0.00	0.00	61.36
		F3D4L4	88.93	88.93	0.00	0.00	177.86
		F4D5L2	20.57	20.57	0.00	0.00	41.15
		TOTAL	140.19	140.19	0.00	0.00	280.37
Acacia auriculiformis	15 years	F4D3L2		28.12			28.12
<b>TOTAL</b>			140.19	168.31	0.00	0.00	308.50

Table A10-2: Estimated Cost per ha of Forest Planting &amp; Tending

Year	Acacia mangium								
	F4D3L4 (1,600 trees/ha)			F3D4L4 (1,600 trees/ha)			F4D5L2 (1,600 trees/ha)		
	Labor cost	Materials	Total	Labor cost	Materials	Total	Labor cost	Materials	Total
Year 1	5,753,425	1,699,200	7,452,625	5,353,279	1,699,200	7,052,479	5,744,819	1,699,200	7,444,019
Year 2	2,014,423	0	2,014,423	2,014,423		2,014,423	2,964,917		2,964,917
Year 3	1,504,363	0	1,504,363	1,504,363		1,504,363	2,657,473		2,657,473
Year 4	905,512	0	905,512	905,512		905,512	1,507,101		1,507,101
Year 5	284,757	0	284,757	284,757		284,757	284,757		284,757
Year 6	284,757	0	284,757	284,757		284,757	284,757		284,757
Year 7	284,757	0	284,757	284,757		284,757	284,757		284,757
Year 8	284,757	0	284,757	284,757		284,757	284,757		284,757
Year 9	284,757	0	284,757	284,757		284,757	284,757		284,757
Year 10	284,757	0	284,757	284,757		284,757	284,757		284,757
Year 11	284,757	0	284,757	284,757		284,757	284,757		284,757
Year 12	284,757	0	284,757	284,757		284,757	284,757		284,757
Year 13	284,757	0	284,757	284,757		284,757	284,757		284,757
Year 14	284,757	0	284,757	284,757		284,757	284,757		284,757
Year 15	284,757	0	284,757	284,757		284,757	284,757		284,757
<b>Total</b>									
Year 1-4	10,177,723	1,699,200	11,876,923	9,777,577	1,699,200	11,476,777	12,874,310	1,699,200	14,573,510
Year 1-8	11,316,751	1,699,200	13,015,951	10,916,605	1,699,200	12,615,805	14,013,338	1,699,200	15,712,538
Year 1-15	13,310,050	1,699,200	15,009,250	12,909,904	1,699,200	14,609,104	16,006,637	1,699,200	17,705,837

Area

61.36

177.86

41.15

Year	Acacia mangium			Acacia auriculiformis		
	Weighted Average (1,600 trees/ha)			F4D3L2 (2,000 trees/ha)		
	Labor cost	Materials	Total	Labor cost	Materials	Total
Year 1	5,498,315	1,699,200	7,197,515	6,315,509	2,124,000	8,439,509
Year 2	2,153,921	0	2,153,921	2,271,800	0	2,271,800
Year 3	1,673,598	0	1,673,598	1,516,488	0	1,516,488
Year 4	993,804	0	993,804	913,726	0	913,726
Year 5	284,757	0	284,757	284,757	0	284,757
Year 6	284,757	0	284,757	284,757	0	284,757
Year 7	284,757	0	284,757	284,757	0	284,757
Year 8	284,757	0	284,757	284,757	0	284,757
Year 9	284,757	0	284,757	284,757	0	284,757
Year 10	284,757	0	284,757	284,757	0	284,757
Year 11	284,757	0	284,757	284,757	0	284,757
Year 12	284,757	0	284,757	284,757	0	284,757
Year 13	284,757	0	284,757	284,757	0	284,757
Year 14	284,757	0	284,757	284,757	0	284,757
Year 15	284,757	0	284,757	284,757	0	284,757
<b>Total</b>						
Year 1-4	10,319,639	1,699,200	12,018,839	11,017,523	2,124,000	13,141,523
Year 1-8	11,458,667	1,699,200	13,157,867	12,156,551	2,124,000	14,280,551
Year 1-15	13,451,966	1,699,200	15,151,166	14,149,850	2,124,000	16,273,850

**Table A10-3: Quantity and Cost of Materials per 1 ha****Model 1: *Acacia mangium* plantation**

#	Material	Unit	Unit cost (VND)	Planting		Replanting (10%)		Total (VND)
				Quantity	Total (VND)	Quantity	Total (VND)	
1	<i>Acacia mangium</i>	tree	580	1,600	928,000	160	92,800	1,020,800
2	NPK for bed-dressing (0.1 kg/hole)	Kg	2,120	160	339,200			339,200
3	NPK for top-dressing (0.1 kg/hole)	Kg	2,120	160	339,200			339,200
<b>Total</b>					<b>1,606,400</b>		<b>92,800</b>	<b>1,699,200</b>

**Table A10-4: Quantity and Cost of Materials per 1 ha****Model 2: *Acacia auriculiformis* plantation**

#	Material	Unit	Unit cost (VND)	Planting		Replanting (10%)		Total (VND)
				Quantity	Total (VND)	Quantity	Total (VND)	
1	<i>Acacia auriculiformis</i>	tree	580	2,000	1,160,000	200	116,000	1,276,000
2	NPK for bed-dressing (0.1 kg/hole)	Kg	2,120	200	424,000		-	424,000
3	NPK for top-dressing (0.1 kg/hole)	Kg	2,120	200	424,000		-	424,000
<b>Total</b>					<b>2,008,000</b>		<b>116,000</b>	<b>2,124,000</b>

Table A10-5: Estimated Labor Cost per ha of Forest Planting and Protection

Acacia mangium plantation model

Technical formula: F4D3L4 (1,600 trees/ha)

Activity	Unit	Quantity	Cost Norm		Man-day		Total (VND)
				Norm	Man-day	Unit cost (VND)	
<b>1 Year 1</b>					<b>147.09</b>		<b>5,753,425</b>
<b>1.1 Forest planting</b>							
- Vegetation clearing	m <sup>2</sup>	10,000	72c	351	28.49	39,115	1,114,386
- Hole digging	Hole	1,600	87d	31	51.61	39,115	2,018,725
- Hole backfilling	Hole	1,600	102b	133	12.03	39,115	470,553
- Fertilizer hauling & application	Kg	160	121a	121	1.32	39,115	51,632
- Seedling hauling & outplanting	Seedling	1,600	112a	134	11.94	39,115	467,033
<b>1.2 Tending Year 1</b>							
- 1st vegetation clearing	m <sup>2</sup>	10,000	114i	512	19.53	39,115	763,916
- Seedling hauling & replanting	Seedling	160	146a	93	1.72	39,115	67,278
- Soil scarification, mounding	Tree	1,600	126c	135	11.85	39,115	463,513
- Top-dressing application	Kg	160	121a	121	1.32	39,115	51,632
<b>1.3 Protection</b>	Ha	1	154a		7.28	39,115	284,757
<b>2 Year 2</b>					<b>51.50</b>		<b>2,014,423</b>
<b>2.1 Tending Year 2</b>							
- 1st vegetation clearing	m <sup>2</sup>	10,000	114i	512	19.53	39,115	763,916
- Soil scarification, mounding	Tree	1,600	126c	135	11.85	39,115	463,513
- 2nd vegetation clearing	m <sup>2</sup>	10,000	115i	779	12.84	39,115	502,237
<b>2.2 Protection</b>	Ha	1	154a		7.28	39,115	284,757
<b>3 Year 3</b>					<b>38.46</b>		<b>1,504,363</b>
<b>3.1 Tending Year 3</b>							
- 1st Vegetation clearing	m <sup>2</sup>	10,000	116i	630	15.87	39,115	620,755
- 2nd Vegetation clearing	m <sup>2</sup>	10,000	117i	653	15.31	39,115	598,851
<b>3.2 Protection</b>	Ha	1	154a		7.28	39,115	284,757
<b>4 Year 4</b>					<b>23.15</b>		<b>905,512</b>
- 1st Vegetation clearing	m <sup>2</sup>	10,000	116i	630	15.87	39,115	620,755
- Protection	Ha	1	154a		7.28	39,115	284,757
<b>5 Protection in Year 5-15</b>							
Year 5	Ha	1	154a		7.28	39,115	284,757
Year 6	Ha	1	154a		7.28	39,115	284,757
Year 7	Ha	1	154a		7.28	39,115	284,757
Year 8	Ha	1	154a		7.28	39,115	284,757
Year 9	Ha	1	154a		7.28	39,115	284,757
Year 10	Ha	1	154a		7.28	39,115	284,757
Year 11	Ha	1	154a		7.28	39,115	284,757
Year 12	Ha	1	154a		7.28	39,115	284,757
Year 13	Ha	1	154a		7.28	39,115	284,757
Year 14	Ha	1	154a		7.28	39,115	284,757
Year 15	Ha	1	154a		7.28	39,115	284,757
<b>Total</b>				Year 1-4	<b>260.2</b>		<b>10,177,723</b>
				Year 1-8	<b>289.32</b>		<b>11,316,751</b>
				Year 1-15	<b>340.28</b>		<b>13,310,050</b>

Salary coefficient (worker at medium grade): 2.26  
 Basic salary level: 450,000 vnd/month  
 Number of working day per month: 26 days  
 Daily salary: 450,000\*(2.26)/26 = 39,115 VND/day

Hệ số lương công nhân trung với hệ số: 2,26  
 Mức lương cơ bản: 450.000 đồng/tháng  
 Một tháng làm việc 26 ngày  
 Lương ngày: 450000\*(2,26)/26 = 39.115 đồng/ngày

Table A10-6: Estimated Labor Cost per ha of Forest Planting and Protection

Acacia mangium plantation model

Technical formula: F3D4L4 (1,600 trees/ha)

Activity	Unit	Quantity	Cost Norm		Man-day		Total (VND)
				Norm	Man-day	Unit cost (VND)	
<b>1 Year 1</b>					<b>136.86</b>		<b>5,353,279</b>
<b>1.1 Forest planting</b>							
- Vegetation clearing	m <sup>2</sup>	10,000	72d	252	39.68	39,115	1,552,083
- Hole digging	Hole	1,600	87c	53	30.19	39,115	1,180,882
- Hole backfilling	Hole	1,600	102b	133	12.03	39,115	470,553
- Fertilizer hauling & application	Kg	160	121a	121	1.32	39,115	51,632
- Seedling hauling & outplanting	Seedling	1,600	112a	134	11.94	39,115	467,033
<b>1.2 Tending Year 1</b>							
- 1st vegetation clearing	m <sup>2</sup>	10,000	114i	512	19.53	39,115	763,916
- Seedling hauling & replanting	Seedling	160	146a	93	1.72	39,115	67,278
- Soil scarification, mounding	Tree	1,600	126c	135	11.85	39,115	463,513
- Top-dressing application	Kg	160	121a	121	1.32	39,115	51,632
<b>1.3 Protection</b>	Ha	1	154a		7.28	39,115	284,757
<b>2 Year 2</b>					<b>51.50</b>		<b>2,014,423</b>
<b>2.1 Tending Year 2</b>							
- 1st vegetation clearing	m <sup>2</sup>	10,000	114i	512	19.53	39,115	763,916
- Soil scarification, mounding	Tree	1,600	126c	135	11.85	39,115	463,513
- 2nd vegetation clearing	m <sup>2</sup>	10,000	115i	779	12.84	39,115	502,237
<b>2.2 Protection</b>	Ha	1	154a		7.28	39,115	284,757
<b>3 Year 3</b>					<b>38.46</b>		<b>1,504,363</b>
<b>3.1 Tending Year 3</b>							
- 1st Vegetation clearing	m <sup>2</sup>	10,000	116i	630	15.87	39,115	620,755
- 2nd Vegetation clearing	m <sup>2</sup>	10,000	117i	653	15.31	39,115	598,851
<b>3.2 Protection</b>	Ha	1	154a		7.28	39,115	284,757
<b>4 Year 4</b>					<b>23.15</b>		<b>905,512</b>
- 1st Vegetation clearing	m <sup>2</sup>	10,000	116i	630	15.87	39,115	620,755
- Protection	Ha	1	154a		7.28	39,115	284,757
<b>5 Protection in Year 5-15</b>							
Year 5	Ha	1	154a		7.28	39,115	284,757
Year 6	Ha	1	154a		7.28	39,115	284,757
Year 7	Ha	1	154a		7.28	39,115	284,757
Year 8	Ha	1	154a		7.28	39,115	284,757
Year 9	Ha	1	154a		7.28	39,115	284,757
Year 10	Ha	1	154a		7.28	39,115	284,757
Year 11	Ha	1	154a		7.28	39,115	284,757
Year 12	Ha	1	154a		7.28	39,115	284,757
Year 13	Ha	1	154a		7.28	39,115	284,757
Year 14	Ha	1	154a		7.28	39,115	284,757
Year 15	Ha	1	154a		7.28	39,115	284,757
<b>Total</b>			Year 1-4		<b>249.97</b>		<b>9,777,577</b>
			Year 1-8		<b>279.09</b>		<b>10,916,605</b>
			Year 1-15		<b>330.05</b>		<b>12,909,904</b>

Salary coefficient (worker at medium grade): 2.26  
 Basic salary level: 450,000 vnd/month  
 Number of working day per month: 26 days  
 Daily salary: 450,000\*(2.26)/26 = 39,115 VND/day

Hệ số lương công nhân trung với hệ số: 2,26  
 Mức lương cơ bản: 450.000 đồng/tháng  
 Một tháng làm việc 26 ngày  
 Lương ngày: 450000\*(2,26)/26 = 39.115 đồng/ngày

Table A10-7: Estimated Labor Cost per ha of Forest Planting and Protection

Acacia mangium plantation model

Technical formula: F4D5L2 (1,600 trees/ha)

Activity	Unit	Quantity	Cost Norm		Man-day		Total (VND)
				Norm	Man-day	Unit cost (VND)	
<b>1 Year 1</b>					<b>146.87</b>		<b>5,744,819</b>
<b>1.1 Forest planting</b>							
- Vegetation clearing	m <sup>2</sup>	10,000	70e	255	39.22	39,115	1,534,090
- Hole digging	Hole	1,600	85d	42	38.10	39,115	1,490,282
- Hole backfilling	Hole	1,600	100b	163	9.82	39,115	384,109
- Fertilizer hauling & application	Kg	160	119a	170	0.94	39,115	36,768
- Seedling hauling & outplanting	Seedling	1,600	110a	193	8.29	39,115	324,263
<b>1.2 Tending Year 1</b>							
- 1st vegetation clearing	m <sup>2</sup>	10,000	114l	316	31.65	39,115	1,237,990
- Seedling hauling & replanting	Seedling	160	144a	138	1.16	39,115	45,373
- Soil scarification, mounding	Tree	1,600	124c	169	9.47	39,115	370,419
- Top-dressing application	Kg	160	119a	170	0.94	39,115	36,768
<b>1.3 Protection</b>	Ha	1			7.28	39,115	284,757
<b>2 Year 2</b>					<b>75.80</b>		<b>2,964,917</b>
<b>2.1 Tending Year 2</b>							
- 1st vegetation clearing	m <sup>2</sup>	10,000	114l	316	31.65	39,115	1,237,990
- Soil scarification, mounding	Tree	1,600	124c	169	9.47	39,115	370,419
- 2nd vegetation clearing	m <sup>2</sup>	10,000	115l	365	27.40	39,115	1,071,751
<b>2.2 Protection</b>	Ha	1			7.28	39,115	284,757
<b>3 Year 3</b>					<b>67.94</b>		<b>2,657,473</b>
<b>3.1 Tending Year 3</b>							
- 1st Vegetation clearing	m <sup>2</sup>	10,000	116l	320	31.25	39,115	1,222,344
- 2nd Vegetation clearing	m <sup>2</sup>	10,000	117l	340	29.41	39,115	1,150,372
<b>3.2 Protection</b>	Ha	1			7.28	39,115	284,757
<b>4 Year 4</b>					<b>38.53</b>		<b>1,507,101</b>
- 1st Vegetation clearing	m <sup>2</sup>	10,000	116l	320	31.25	39,115	1,222,344
- Protection	Ha	1			7.28	39,115	284,757
<b>5 Protection in Year 5-15</b>							
Year 5	Ha	1	154a		7.28	39,115	284,757
Year 6	Ha	1	154a		7.28	39,115	284,757
Year 7	Ha	1	154a		7.28	39,115	284,757
Year 8	Ha	1	154a		7.28	39,115	284,757
Year 9	Ha	1	154a		7.28	39,115	284,757
Year 10	Ha	1	154a		7.28	39,115	284,757
Year 11	Ha	1	154a		7.28	39,115	284,757
Year 12	Ha	1	154a		7.28	39,115	284,757
Year 13	Ha	1	154a		7.28	39,115	284,757
Year 14	Ha	1	154a		7.28	39,115	284,757
Year 15	Ha	1	154a		7.28	39,115	284,757
<b>Total</b>							
			Year 1-4		<b>329.14</b>		<b>12,874,310</b>
			Year 1-8		<b>358.26</b>		<b>14,013,338</b>
			Year 1-15		<b>409.22</b>		<b>16,006,637</b>

Salary coefficient (worker at medium grade): 2.26  
 Basic salary level: 450,000 vnd/month  
 Number of working day per month: 26 days  
 Daily salary: 450,000\*(2.26)/26 = 39,115 VND/day

Hệ số lương công nhân trung với hệ số: 2,26  
 Mức lương cơ bản: 450.000 đồng/tháng  
 Một tháng làm việc 26 ngày  
 Lương ngày: 450000\*(2,26)/26 = 39.115 đồng/ngày

Table A10-8: Estimated Labor Cost per ha of Forest Planting and Protection

Acacia auriculiformis plantation model

Technical formula: F4D3L2 (2,000 trees/ha)

Activity	Unit	Quantity	Cost Norm			Man-day		Total (VND)
				Coef.	Norm	Man-day	Unit cost (VND)	
<b>1 Year 1</b>						<b>161.46</b>		<b>6,315,509</b>
<b>1.1 Forest planting</b>								
- Vegetation clearing	m <sup>2</sup>	10,000	70c	0.81	432	28.58	39,115	1,117,907
- Hole digging	Hole	2,000	85d		42	58.79	39,115	2,299,571
- Hole backfilling	Hole	2,000	100b		163	15.15	39,115	592,592
- Fertilizer hauling & application	Kg	200	119a		170	1.45	39,115	56,717
- Seedling hauling & outplanting	Seedling	2,000	110a		193	12.79	39,115	500,281
<b>1.2 Tending Year 1</b>								
- 1st vegetation clearing	m <sup>2</sup>	10,000	114g		631	19.57	39,115	765,481
- Soil scarification, mounding	Tree	2,000	124c		169	14.61	39,115	571,470
- Seedling hauling & replanting	Seedling	200	144a		138	1.79	39,115	70,016
- Top-dressing application	Kg	200	119a		170	1.45	39,115	56,717
<b>1.3 Protection</b>	Ha	1	154a			7.28	39,115	284,757
<b>2 Year 2</b>						<b>58.08</b>		<b>2,271,800</b>
<b>2.1 Tending Year 2</b>								
- 1st vegetation clearing	m <sup>2</sup>	10,000	114g		631	19.57	39,115	765,481
- Soil scarification, mounding	Tree	2,500	124c		169	18.26	39,115	714,240
- 2nd vegetation clearing	m <sup>2</sup>	10,000	115g		952	12.97	39,115	507,322
<b>2.2 Protection</b>	Ha	1	154a			7.28	39,115	284,757
<b>3 Year 3</b>						<b>38.77</b>		<b>1,516,488</b>
<b>3.1 Tending Year 3</b>								
- 1st Vegetation clearing	m <sup>2</sup>	10,000	116g		768	16.08	39,115	628,969
- 2nd Vegetation clearing	m <sup>2</sup>	10,000	117g		801	15.41	39,115	602,762
<b>3.2 Protection</b>	Ha	1	154a			7.28	39,115	284,757
<b>4 Year 4</b>						<b>23.36</b>		<b>913,726</b>
- 1st Vegetation clearing	m <sup>2</sup>	10,000	116g		768	16.08	39,115	628,969
- Protection	Ha	1	154a			7.28	39,115	284,757
<b>5 Protection in Year 5-15</b>								
Year 5	Ha	1	154a			7.28	39,115	284,757
Year 6	Ha	1	154a			7.28	39,115	284,757
Year 7	Ha	1	154a			7.28	39,115	284,757
Year 8	Ha	1	154a			7.28	39,115	284,757
Year 9	Ha	1	154a			7.28	39,115	284,757
Year 10	Ha	1	154a			7.28	39,115	284,757
Year 11	Ha	1	154a			7.28	39,115	284,757
Year 12	Ha	1	154a			7.28	39,115	284,757
Year 13	Ha	1	154a			7.28	39,115	284,757
Year 14	Ha	1	154a			7.28	39,115	284,757
Year 15	Ha	1	154a			7.28	39,115	284,757
<b>Total</b>			Year 1-4			<b>281.67</b>		<b>11,017,523</b>
			Year 1-8			<b>310.79</b>		<b>12,156,551</b>
			Year 1-15			<b>361.75</b>		<b>14,149,850</b>

Salary coefficient (worker at medium grade): 2.26  
 Basic salary level: 450,000 vnd/month  
 Number of working day per month: 26 days  
 Daily salary: 450,000\*(2.26)/26 = 39,115 VND/day

Hệ số lương công nhân trung với hệ số: 2,26  
 Mức lương cơ bản: 450.000 đồng/tháng  
 Một tháng làm việc 26 ngày  
 Lương ngày: 450000\*(2,26)/26 = 39.115 đồng/ngày

Table A10-9 : GROWTH TABLE OF ACACIA MANGIUM IN CAO PHONG - HOA BINH

Planting density: 1600 trees/ha

Productivity class: III

Roration period: 15 years

Project year	A	Bộ phận nuôi dưỡng (Main part)									St	N2	Bộ phận tỉa thưa (Thinning part)				Bộ phận tổng hợp (Total)			
		7	Hg (m)	Dg (cm)	G (m2/ha)	M (m3/ha)	Zm (m3)	ΔM (m3)	Pm%	f1.3			N (c/ha)	G (m2/ha)	M (m3/ha)	ΔM (m3)	G (m2/ha)	M (m3/ha)	Zm (m3)	ΔM (m3)
Year 3	2	1600	4.3	4.8	2.9	8.4		4.2		0.662							2.9	8.4		4.2
Year 4	3	1600	6.6	6.6	5.5	22.1	13.7	7.4	62.1	0.612							5.5	22.1	13.7	7.4
Year 5	4	1600	8.3	8.0	8.1	39.4	17.3	9.9	43.9	0.581							8.1	39.4	17.3	9.9
Year 6	5	1600	9.8	9.2	10.7	58.5	19.1	11.7	32.6	0.559							10.7	58.5	19.1	11.7
Year 7	6	1600	11.0	10.2	13.1	78.3	19.8	13.0	25.3	0.542							13.1	78.3	19.8	13.0
Year 8	7	1600	12.0	11.1	15.4	98.2	19.9	14.0	20.3	0.529							15.4	98.2	19.9	14.0
Year 9	8	1600	12.9	11.8	8.8	59.0	-39.3	7.4	-66.6	0.518	800	800	4.3	35.4	4.4		13.2	94.4	-3.9	11.8
Year 10	9	800	13.7	12.5	9.9	68.6	9.7	7.6	14.1	0.509	800						14.2	104.0	9.7	12.0
Year 11	10	800	14.3	13.1	10.8	78.0	9.4	7.8	12.1	0.502	800						15.2	113.4	9.4	7.8
Year 12	11	800	14.9	13.7	11.8	87.2	9.1	7.9	10.5	0.495	800						16.1	122.5	9.1	12.3
Year 13	12	800	15.5	14.2	12.7	96.0	8.8	8.0	9.2	0.489	800						17.0	131.4	8.8	12.4
Year 14	13	800	16.0	14.7	13.5	104.6	8.5	8.0	8.2	0.484	800						17.9	139.9	8.5	12.5
Year 15	14	800	16.4	15.1	14.3	112.8	8.3	8.1	7.3	0.480	800						18.7	148.2	8.3	12.5
Year 16	15	800	16.8	15.5	15.1	120.8	8.0	8.1	6.6	0.475	800						19.5	120.8	8.0	12.5
Year 17	16	800	17.2	15.9	15.9	128.5	7.7	8.0	6.0	0.471	800						20.2	163.9	7.7	8.0
Year 18	17	800	17.5	16.2	16.6	136.0	7.5	8.0	5.5	0.468	800						20.9	171.4	7.5	8.0
Year 19	18	800	17.9	16.6	17.3	143.2	7.2	8.0	5.0	0.465	800						21.6	178.6	7.2	12.4

of which

$$hg = 30 e^{-2,9389/T^{0,6}}$$

$$Dg = 39,8 e^{-2,7835/T^{0,4}}$$

$$V = 0,000088 D1,47077 H1,21099$$

$$M = N/ha \times V$$

$$F = M/GH$$

$$Zm = Ma - Ma-1$$

$$\Delta M = Ma/A$$

$$Pm\% = (Zm/Ma) \times 100$$

$$Nc = N1 - N2$$

$$N2 = 10000/St$$

$$St = 0,3292 \times hg^{1,2415}$$

$$Mc = Nc \times Kv \times V1 \quad \text{Kv is thinning coefficient by volume} = 0,355$$

$$Gc = Nc \times Kg \times G1 \quad \text{Với Kg is thinning coefficient by section} = 0,492$$

$$Dg = 1,1286 \times \text{sqrt}(Gc)$$





Table A10-11: Detailed Computation of Temporary CER Generated from the Project < Case-1: Acacia mangium 15year, Acacia auriculiformis 15year >

Items		1					2					3					4					5					6	7	8	9	10	11	12	13	14	15							
		Stem volume at time t for the project scenario					Above-ground biomass at time t under the project scenario					Carbon stocks in above-ground biomass at time t under the project scenario					Carbon stocks in below-ground biomass at time t under the project scenario					Total carbon stocks in biomass in each strata at time t under the project scenario					Total carbon stocks in biomass at time t under the project scenario	Removal component of actual net GHG removals by sinks per annum	Project emissions	Actual net GHG removals by sinks in year t	Leakage attributable to the project activity at time t	Carbon stocks in biomass at time 0 that would have occurred in the absence of the project activity	Baseline net GHG removals by sinks	Net anthropogenic GHG removals by sinks	Net anthropogenic GHG removals by sinks (Cumulative)	ICERs (Temporary Certified Emission Reductions)							
Simbol		SV(t) <sub>i</sub>					T(t) <sub>i</sub>					NA(t) <sub>i</sub>					NB(t) <sub>i</sub>					N(t) <sub>i</sub>					N(t)	ΔCproj,t	GHGproj,t	ΔCactual,t	L <sub>t</sub>	B (t C)	ΔCbsl,t	ERarcdm,t	ΣERarcdm,t	ICER (If negative, zero Max=-40000)							
Formula		-					SV(t) <sub>i</sub> x BEF x WD					T(t) <sub>i</sub> x 0.5					Exp(-1.085+0.9256*lnT(t)) <sup>0.5</sup>					(NA(t) <sub>i</sub> +NB(t) <sub>i</sub> ) x A <sub>i</sub>					Sum of N(t) <sub>i</sub>	N(t)-N(t-1)		ΔCproj,t - GHGproj,t	ΔCactual,t x 0.15 (If L <sub>t</sub> < 0, 0)	B (t C)	B(t C) <sub>t</sub> - B(t C) <sub>t-1</sub> x 44/12	ΔCproj,t - GHGproj,t - ΔCbsl,t									
Unit		m <sup>3</sup> /ha					t d.m./ha					t C/ha					t C/ha					t C					t C	t CO <sub>2</sub> -e/year	t CO <sub>2</sub> -e/year	t CO <sub>2</sub> -e/year	t CO <sub>2</sub> -e/year	t C	t CO <sub>2</sub> -e/year	t CO <sub>2</sub> -e/year	t CO <sub>2</sub> -e								
Project year	Growth age	mangl8	mangl8	mangl15	mangl15	auri15	auri15	mangl8	mangl8	mangl15	mangl15	auri15	auri15	mangl8	mangl8	mangl15	mangl15	auri15	auri15	mangl8	mangl8	mangl15	mangl15	auri15	auri15	mangl8	mangl8	mangl15	mangl15	auri15	auri15												
1	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1,903	0	0	0	0	1,903	0	0	0			
2	1	4.2	0.0	4.2	0.0	2.0	0.0	2.9	0.0	2.9	0.0	1.4	0.0	1.5	0.0	0.7	0.0	0.5	0.0	0.5	0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	270	0	0	0	0	1,903	0	-5,986	-5,986				
3	2	8.4	4.2	8.4	4.2	4.0	2.0	5.9	2.9	5.9	2.9	2.9	1.4	2.9	1.5	2.9	1.5	1.4	0.7	0.9	0.5	0.5	0.5	0.2	0.0	0.0	0.0	0.0	0.0	532	270	0	27	830	2,051	0	2,051	308	1,903	0	1,743	-4,243	
4	3	22.1	8.4	22.1	8.4	6.0	4.0	15.5	5.9	15.5	5.9	4.4	2.9	7.7	2.9	2.2	1.4	2.1	0.9	2.1	0.9	0.7	0.5	0.7	0.5	0.0	0.0	0.0	1,383	532	0	53	1,969	4,178	627	4,178	1,903	0	3,551	-692			
5	4	39.4	22.1	39.4	22.1	14.6	6.0	27.6	15.5	27.6	15.5	10.5	4.4	13.8	7.7	13.8	7.7	5.3	2.2	3.6	2.1	3.6	2.1	1.5	0.7	0.0	0.0	0.0	2,445	1,383	0	80	3,908	7,109	1,066	7,109	1,903	0	6,043	5,350	5,350		
6	5	58.5	39.4	58.5	39.4	26.3	14.6	40.9	27.6	40.9	27.6	19.0	10.5	20.5	13.8	20.5	13.8	9.5	5.3	5.2	3.6	5.2	3.6	2.6	1.5	0.0	0.0	0.0	3,606	2,445	0	190	6,240	8,553	1,283	8,553	1,903	0	7,270	12,620			
7	6	78.3	58.5	78.3	58.5	40.0	26.3	54.8	40.9	54.8	40.9	28.8	19.0	27.4	20.5	27.4	20.5	14.4	9.5	6.9	5.2	6.9	5.2	3.8	2.6	0.0	0.0	0.0	4,805	3,606	0	339	8,750	9,203	1,380	9,203	1,903	0	7,822	20,443			
8	7	98.2	78.3	98.2	78.3	54.2	40.0	68.8	54.8	68.8	54.8	39.1	28.8	34.4	27.4	34.4	27.4	19.5	14.4	8.5	6.9	8.5	6.9	5.0	3.8	0.0	0.0	0.0	6,008	4,805	0	512	11,325	9,443	1,416	9,443	1,903	0	8,026	28,469			
9	8	117.9	98.2	117.9	98.2	61.4	54.2	82.6	68.8	82.6	68.8	44.2	39.1	41.3	34.4	41.3	34.4	22.1	19.5	10.0	8.5	5.3	8.5	5.6	5.0	0.0	0.0	0.0	6,365	6,008	0	691	10,334	-3,635	-3,635	0	1,903	0	-3,635	24,834			
10	9	0.0	117.9	68.6	59.0	82.7	61.4	0.0	82.6	48.0	41.3	59.6	44.2	0.0	41.3	24.0	20.6	29.8	22.1	0.0	10.0	6.1	5.3	7.4	5.6	0.0	0.0	0.0	4,221	3,635	0	781	8,636	-6,226	-6,226	0	1,903	0	-6,226	18,608	18,608		
11	10	4.2	0.0	78.0	68.6	97.0	82.7	2.9	0.0	54.6	48.0	69.9	59.6	1.5	0.0	27.3	24.0	35.0	29.8	0.5	0.0	6.9	6.1	8.6	7.4	0.0	0.0	0.0	4,790	4,221	0	1,047	10,058	5,212	5,212	782	1,903	0	4,430	23,038			
12	11	8.4	4.2	87.2	78.0	112.8	97.0	5.9	2.9	61.0	54.6	81.3	69.9	2.9	1.5	30.5	27.3	40.7	35.0	0.9	0.5	7.6	6.9	9.9	8.6	0.0	0.0	0.0	5,341	4,790	0	1,225	11,357	4,763	4,763	715	1,903	0	4,049	27,087			
13	12	22.1	8.4	96.0	87.2	103.3	112.8	15.5	5.9	67.2	61.0	74.5	81.3	7.7	2.9	33.6	30.5	37.2	40.7	2.1	0.9	8.3	7.6	9.1	9.9	0.0	0.0	0.0	5,874	5,341	0	1,422	12,637	4,696	4,696	704	1,903	0	3,992	31,079			
14	13	39.4	22.1	104.6	96.0	113.9	103.3	27.6	15.5	73.2	67.2	82.2	74.5	13.8	7.7	36.6	33.6	41.1	37.2	3.6	2.1	9.0	8.3	10.0	9.1	0.0	0.0	0.0	6,389	5,874	0	1,304	13,568	3,412	3,412	512	1,903	0	2,900	33,978			
15	14	58.5	39.4	112.8	104.6	125.3	113.9	40.9	27.6	79.0	73.2	90.3	82.2	20.5	13.8	39.5	36.6	45.2	41.1	5.2	3.6	9.6	9.0	10.9	10.0	0.0	0.0	0.0	6,887	6,389	0	1,436	14,712	4,197	4,197	630	1,903	0	3,567	37,546	37,546		
16	15	78.3	58.5	120.8	112.8	134.8	125.3	54.8	40.9	84.6	79.0	97.2	90.3	27.4	20.5	42.3	39.5	48.6	45.2	6.9	5.2	10.3	9.6	11.7	10.9	0.0	0.0	0.0	7,367	6,887	0	1,577	15,830	4,098	4,098	615	1,903	0	3,484	41,029			
17	16	98.2	78.3	0.0	120.8	0.0	134.8	68.8	54.8	0.0	84.6	0.0	97.2	34.4	27.4	0.0	42.3	0.0	48.6	8.5	6.9	0.0	10.3	0.0	11.7	0.0	0.0	0.0	0	7,367	0	1,695	9,062	-24,817	-24,817	0	1,903	0	-24,817	16,212			
18	17	117.9	98.2	4.2	0.0	2.0	0.0	82.6	68.8	2.9	0.0	1.4	0.0	41.3	34.4	1.5	0.0	0.7	0.0	10.0	8.5	0.5	0.0	0.2	0.0	0.0	0.0	0.0	270	0	0	0	270	-32,235	-32,235	0	1,903	0	-32,235	-16,023			
19	18	0.0	117.9	8.4	4.2	4.0	2.0	0.0	82.6	5.9	2.9	2.9	1.4	0.0	41.3	2.9	1.5	1.4	0.7	0.0	10.0	0.9	0.5	0.5	0.2	0.0	0.0	0.0	532	270	0	27	830	2,051	2,051	308	1,903	0	1,743	-14,280			
20	19	4.2	0.0	22.1	8.4	6.0	4.0	2.9	0.0	15.5	5.9	4.4	2.9	1.5	0.0	7.7	2.9	2.2	1.4	0.5	0.0	2.1	0.9	0.7	0.5	0.0	0.0	0.0	1,383	532	0	53	1,969	4,178	627	4,178	1,903	0	3,551	-10,729	0		
21	20	8.4	4.2	39.4	22.1	14.6	6.0	5.9	2.9	27.6	15.5	10.5	4.4	2.9	1.5	13.8	7.7	5.3	2.2	0.9	0.5	3.6	2.1	1.5	0.7	0.0	0.0	0.0	2,445	1,383	0	80	3,908	7,109	1,066	7,109	1,903	0	6,043	-4,687			
22	21	22.1	8.4	58.5	39.4	26.3	14.6	15.5	5.9	40.9	27.6	19.0	10.5	7.7	2.9	20.5	13.8	9.5	5.3	2.1	0.9	5.2	3.6	2.6	1.5	0.0	0.0	0.0	3,606	2,445	0	190	6,240	8,553	1,283	8,553	1,903	0	7,270	2,583			
23	22	39.4	22.1	78.3	58.5	40.0	26.3	27.6	15.5	54.8	40.9	28.8	19.0	13.8	7.7	27.4	20.5	14.4	9.5	3.6	2.1	6.9	5.2	3.8	2.6	0.0	0.0	0.0	4,805	3,606	0	339	8,750	9,203	1,380	9,203	1,903	0	7,822	10,406			
24	23	58.5	39.4	98.2	78.3	54.2	40.0	40.9	27.6	68.8	54.8	39.1	28.8	20.5	13.8	34.4	27.4	19.5	14.4	5.2	3.6	8.5	6.9	5.0	3.8	0.0	0.0	0.0	6,008	4,805	0	512	11,325	9,443	1,416	9,443	1,903	0	8,026	18,432			
25	24	78.3	58.5	59.0	98.2	61.4	54.2	54.8	40.9	41.3	68.8	44.2	39.1	27.4	20.5	20.6	34.4	22.1	19.5	6.9	5.2	5.3	8.5	5.6	5.0	0.0	0.0	0.0	3,635	6,008	0	691	10,334	-3,635	-3,635	0	1,903	0	-3,635	14,797	14,797		
26	25	98.2	78.3	68.6	59.0	82.7	61.4	68.8	54.8	48.0	41.3	59.6	44.2	34.4	27.4	24.0	20.6	29.8	22.1	8.5	6.9	6.1	5.3	7.4	5.6	0.0	0.0	0.0	4,221	3,635	0	781	8,636	-6,226	-6,226	0	1,903	0	-6,226	8,571			
27	26	117.9	98.2	78.0	68.6	97.0	82.7	82.6	68.8	54.6	48.0	69.9	59.6	41.3	34.4	27.3	24.0	35.0	29.8	10.0	8.5	6.9	6.1	8.6	7.4	0.0	0.0	0.0	4,790	4,221	0	1,047	10,058	5,212	5,212	782	1,903	0	4,430	13,001			
28	27	0.0	117.9	87.2	78.0	112.8	97.0	0.0	82.6	61.0	54.6	81.3	69.9	0.0	41.3	30.5	27.3	40.7	35.0	0.0	10.0	7.6	6.9	9.9	8.6	0.0	0.0	0.0	5,341	4,790	0	1,225	11,357	4,763	4,763	715	1,903	0	4,049	17,050			
29	28	4.2	0.0	96.0	87.2	103.3	112.8	2.9	0.0	67.2	61.0	74.5	81.3	1.5	0.0	33.6	30.5	37.2	40.7	0.5	0.0	8.3	7.6	9.1	9.9	0.0	0.0	0.0	5,874	5,341	0	1,422	12,637	4,696	4,696	704	1,903	0	3,992	21,041			
30	29	8.4	4.2	104.6	96.0	113.9	103.3	5.9	2.9	73.2	67.2	82.2	74.5	2.9	1.5	36.6	33.6	41.1	37.2	0.9	0.5	9.0	8.3	10.0	9.1																		

Table A10-12: Estimated Cost per ha of Fodder Production (Co Voi and Co Sua)

Items	Unit	Quantity	Unit cost (VND)	Amount (VND)	Remarks
<b>A. 1st Year</b>					
1 <u>Tillage</u>	ha	1	1,500,000	1,500,000	
2 <u>Materials</u>					
>Cuttings (co voi) or seeds (co sua)				3,500,000	Co voi: 500kg/ha/sao (360m2) Co sua: 0.22kg/ha/sao
>Farm manure	kg	15,000	400	6,000,000	
>Lime	kg	1,000	350	350,000	
>Phosphorus	kg	250	1,500	375,000	
>Potassium	kg	70	4,100	287,000	
3 <u>Labors</u>					
>Planting	man-day	80	30,000	2,400,000	
>Harvesting	man-day	40	30,000	1,200,000	
<b>Sub-total</b>					
		<b>Labors &amp; tillage</b>		<b>5,100,000</b>	Participants will shoulder it.
		<b>Farm manure</b>		<b>6,000,000</b>	The project will subsidize 50%.
		<b>Materials</b>		<b>4,512,000</b>	The project will subsidize 100%.
				<b>15,612,000</b>	
<b>B. 2nd Year</b>					
1 <u>Materials</u>	kg	1,400	5,500	7,700,000	
>Urea					
2 <u>Labor</u>					
>Soil treatment	man-day	40	30,000	1,200,000	
>Tending	man-day	100	30,000	3,000,000	
>Harvesting	man-day	40	30,000	1,200,000	
<b>Sub-total</b>					
		<b>Labors</b>		<b>5,400,000</b>	Participants will shoulder it.
		<b>Farm manure</b>			The project will subsidize 50%.
		<b>Materials</b>		<b>7,700,000</b>	The project will subsidize 100%.
				<b>13,100,000</b>	
<b>TOTAL</b>					
		<b>Labors &amp; tillage</b>		<b>10,500,000</b>	Participants will shoulder it.
		<b>Farm manure</b>		<b>6,000,000</b>	The project will subsidize 50%.
		<b>Materials</b>		<b>12,212,000</b>	The project will subsidize 100%.
				<b>28,712,000</b>	
<b>Subsidy of the project</b>			<b>Year 1</b>	<b>7,512,000</b>	
			<b>Year 2</b>	<b>7,700,000</b>	
<b>Responsibility of project participants</b>			<b>Year 1</b>	<b>8,100,000</b>	
			<b>Year 2</b>	<b>5,400,000</b>	
			<b>Total</b>	<b>28,712,000</b>	

Note: The project participants will be responsible for management of fodder production on and after 3rd year

**Table A10-13 : Annual Administration Cost of Social Fund**

	Unit	Quantity	Unit Cost (VND)	Amount (VND)	Remarks
1 Salary/ Allowance				<u>42,000,000</u>	
1.1 Management board members	man-month	36	300,000	10,800,000	3 part time
1.2 Control board members	man-month	36	200,000	7,200,000	3 part time
1.3 Fund director	man-month	12	1,000,000	12,000,000	1 part time
1.4 Chief Accountant	man-month	12	1,000,000	12,000,000	1 full time
2 Allowance to group leaders	man-month	60	200,000	12,000,000	5 leaders
3 Meeting expenses	time	36	200,000	7,200,000	
4 Office rental cost	month	12	1,000,000	12,000,000	
5 Office running cost	month	12	1,000,000	12,000,000	
6 Communication & transportation	month	12	1,000,000	12,000,000	
7 Miscellaneous expenses	month	12	1,500,000	18,000,000	
<b>TOTAL</b>				<b>115,200,000</b>	<b>Annual cost</b>
<b>8 Purchase of office equipment</b>					
4.1 Medium desk and chair	no.	4	800,000	3,200,000	to be purchased in Year 0
4.2 Computer desk and chair	no.	1	800,000	800,000	
4.3 Photocopy machine	no.		20,000,000	-	
4.4 Desktop computer	no.	1	12,000,000	12,000,000	
4.5 Software	no.	1	4,000,000	4,000,000	
4.6 Laser printer	no.	1	12,000,000	12,000,000	
4.7 Inkjet Color Printer	no.	1	5,000,000	5,000,000	
4.8 UPS 500VA	no.	1	1,000,000	1,000,000	
4.9 Fax Machine	no.	1	3,000,000	3,000,000	
4.10 Digital camera	no.	1	5,000,000	5,000,000	
4.11 Air conditioning unit	no.	1	10,000,000	10,000,000	
4.12 Bookshelf	no.	2	500,000	1,000,000	
4.13 Filing cabinet	no.	2	1,000,000	2,000,000	
<b>TOTAL</b>				<b>59,000,000</b>	

**Table A10-14: Assumptions Used for Financial Analysis of the Project**

<b>Cost sharing</b>		<b>Labor</b>	<b>Materials</b>	<b>Farm manure</b>
Reforestation	Social Fund	<b>30%</b>	<b>100%</b>	
	Participants	70%	0%	
Thinning, harvesting and internal transp.	Social Fund	0%		
	Participants	100%		
Green fodder production	Social Fund	<b>0%</b>	<b>100%</b>	<b>50%</b>
	Participants	100%	0%	50%
Extension and demonstration	Social Fund	<b>100%</b>	<b>100%</b>	<b>100%</b>
	Participants	0%	0%	0%
<b>Benefit sharing</b>				
Forest products	Social Fund	<b>25%</b>		
	Participants	75%		
CER	Social Fund	<b>50%</b>		
	Participants	50%		
Livestock	Social Fund	<b>0%</b>		
	Participants	100%		
<b>Price of tCER (VND/t-CO2)</b>		<b>32,000</b>		
<b>Price of Forest Products</b>		<b>Unit Price VND/m3</b>	<b>% of products</b>	
			<b>8yrs rotation</b>	<b>15 yrs rotation</b>
Acacia: Diameter <15cm		<b>240,000</b>	<b>50%</b>	<b>20%</b>
Acacia: Diameter >15cm	Circuit: 40cm	<b>500,000</b>	<b>25%</b>	<b>20%</b>
	Circuit: 50cm	<b>600,000</b>	<b>15%</b>	<b>30%</b>
	Circuit: 60cm	<b>700,000</b>	<b>10%</b>	<b>30%</b>



Table A10-16: FINANCIAL ANALYSIS OF SMALL-SCALE AR-CDM PILOT PROJECT IN CAO PHONG DISTRICT &lt; 1/2 &gt;

[A] BASIC DATA			Symbol	Year 0 2008	Year 1 2009	Year 2 2010	Year 3 2011	Year 4 2012	Year 5 2013	Year 6 2014	Year 7 2015	Year 8 2016	Year 9 2017	Year 10 2018	Year 11 2019	Year 12 2020	Year 13 2021	Year 14 2022	Year 15 2023	Year 16 2024	Year 17 2025	Year 18 2026	Year 19 2027	Year 20 2028	TOTAL	
<b>1. Planted Area (ha)</b>																										
Acacia mangium	8 years rotation	0%		0.00	0.00	0.00	0.00							0.00	0.00	0.00							0.00	0.00		
	15 years rotation	100%		140.19	140.19	0.00	0.00									0.00						140.19	140.19	0.00		
Acacia auriculiformis	15 years rotation			0.00	28.12	0.00	0.00															0.00	28.12	0.00		
TOTAL				140.19	168.31	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	140.19	168.31	0.00	0.00		
<b>2. Area of Green Fodder Production (ha)</b>					15.00	15.00																			30.00	
<b>3. Area of Thinning and Harvesting (ha)</b>																										
Acacia mangium	8 years rotation	Harvesting											0.00	0.00									0.00	0.00		
	15 years rotation	Thinning											140.19	140.19												
Acacia auriculiformis	15 years rotation	Harvesting																		140.19	140.19	0.00				
	15 years rotation	Thinning											0.00	28.12			0.00	28.12				0.00	0.00	28.12	0.00	
TOTAL (Thinning)										0.00	0.00	0.00	140.19	168.31	0.00	0.00	0.00	28.12	0.00	0.00	0.00	28.12	0.00	0		
TOTAL (Harvesting)										0	0	0	0	0	0	0	0	0	0	140.2	168.3	0.0	0.0	0.0		
<b>4. Volume of Trees (m<sup>3</sup>/ha)</b>				<i>(Refer to Tables 9 and 10)</i>																						
Acacia mangium	8yrs rotation					8.37	22.10	39.42	58.49	78.29	98.22	117.94														
	15 years rotation (thinning parts)											35.38														
	15 years rotation (main parts)					8.37	22.10	39.42	58.49	78.29	98.22	58.97	68.63	78.04	87.17	96.00	104.55	112.81	120.80							
Acacia auriculiformis	15 years rotation (thinning parts)											6.53				20.37										
	15 years rotation (main parts)					6.04	14.61	26.31	39.98	54.23	61.37	82.68	97.00	112.77	103.30	113.95	125.27	134.81								
<b>5. Volume of Thinned/ Harvested Forest Products (m<sup>3</sup>)</b>				<i>(3. Thinning and harvesting area) x (4. Volume of trees)</i>																						
Acacia mangium	8 years rotation (Harvesting)												0	0									0	0	0	
	15 years rotation (thinning)												4,960	4,960												
	15 years rotation (Harvesting)																			16,934	16,934	0				
Acacia auriculiformis	15 years rotation (thinning)												0	184			0	573							757	
	15 years rotation (Harvesting)																			0	3,791	0			3,791	
TOTAL VOLUME (m <sup>3</sup> )				0	0	0	0	0	0	0	0	0	4,960	5,144	0	0	0	573	0	16,934	20,726	0	0	0	48,337	
<b>6. Proportion of Forest Products Harvested (%)</b>				<i>(All products from thinning are regarded as chipwood,</i>																						
Acacia mangium (8 years rotation)	Chipwood (D<15cm)													50%												
	Roundwood (D>15cm)	C=40cm												25%												
		C=50cm												15%												
		C=60cm												10%												
Acacia mangium (15 years rotation)	Chipwood (D<15cm)													100%									20%			
	Roundwood (D>15cm)	C=40cm																					20%			
		C=50cm																					30%			
		C=60cm																					30%			
Acacia auriculiformis (15 years rotation)	Chipwood (D<15cm)													100%			100%						30%			
	Roundwood (D>15cm)	C=40cm																					40%			
		C=50cm																					20%			
		C=60cm																					10%			
<b>7. Volume of Forest Products (m3)</b>				<i>(5. Volume of thinned/ harvested forest products) x (6. Proportion of forest products,</i>																						
Acacia mangium (8 years rotation)	Chipwood (D<15cm)												0	0									0	0	0	
	Roundwood (D>15cm)	C=40cm											0	0									0	0	0	
		C=50cm											0	0									0	0	0	
		C=60cm											0	0									0	0	0	
Acacia mangium (15 years rotation)	Chipwood (D<15cm)												4,960	4,960								3,387	3,387	0	16,694	
	Roundwood (D>15cm)	C=40cm											0	0								3,387	3,387	0	6,774	
		C=50cm											0	0								5,080	5,080	0	10,161	
		C=60cm											0	0								5,080	5,080	0	10,161	
Acacia auriculiformis (15 years rotation)	Chipwood (D<15cm)												0	184			0	573	0	0	1,137				1,894	
	Roundwood (D>15cm)	C=40cm															0	0	0	0	1,517				1,517	
		C=50cm															0	0	0	0	758				758	
		C=60cm															0	0	0	0	379				379	
TOTAL	Chipwood (D<15cm)									0	0	4,960	5,144	0	0	0	573	0	3,387	4,524	0	0	0	0	18,588	
	Roundwood (D>15cm)	C=40cm								0	0	0	0	0	0	0	0	0	0	3,387	4,903	0	0	0	8,290	
		C=50cm								0	0	0	0	0	0	0	0	0	0	5,080	5,839	0	0	0	10,919	
		C=60cm								0	0	0	0	0	0	0	0	0	0	5,080	5,459	0	0	0	10,540	
<b>8. tCER Expected</b>			t-CO2	<i>(Refer to Table 13)</i>																						
									5,350					18,608						37,546				0	61,504	

Table A10-16: FINANCIAL ANALYSIS OF SMALL-SCALE AR-CDM PILOT PROJECT IN CAO PHONG DISTRICT &lt; 2/2 &gt;

[B] PROJECT COST		Symbol	Year 0 2008	Year 1 2009	Year 2 2010	Year 3 2011	Year 4 2012	Year 5 2013	Year 6 2014	Year 7 2015	Year 8 2016	Year 9 2017	Year 10 2018	Year 11 2019	Year 12 2020	Year 13 2021	Year 14 2022	Year 15 2023	Year 16 2024	Year 17 2025	Year 18 2026	Year 19 2027	Year 20 2028	TOTAL		
<b>9. Unit Cost of reforestation (VND 1,000/ha)</b>			<i>(Refer to Table 2)</i>																							
Acacia mangium (1,600 trees/ha)	Labor cost (weighted average)			5,498	2,154	1,674	994	285	285	285	285	285	285	285	285	285	285	285	285							
	Material cost			1,699	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0							
	Total			7,206	2,175	1,699	1,007	285	285	285	285	285	285	285	285	285	285	285	285							
Acacia auriculiformis (2,000 trees/ha)	Labor cost			6,316	2,272	1,516	914	285	285	285	285	285	285	285	285	285	285	285	285							
	Material cost			2,124	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0							
	Total			8,440	2,272	1,516	914	285	285	285	285	285	285	285	285	285	285	285	285							
<b>10. Labor Cost of Reforestation (1,000 VND)</b>			<i>(1. Area Planted) x (9. Unit cost of reforestation - Labor cost)</i>																							
Acacia mangium (8 years rotation)	Planted in Year 1 and Year 10			0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	Planted in Year 2 and Year 11				0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	Planted in Year 3 and Year 12					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Acacia mangium (15 years rotation)	Planted in Year 1 and Year 17			770,791	301,951	234,616	139,318	39,919	39,919	39,919	39,919	39,919	39,919	39,919	39,919	39,919	39,919	39,919	39,919	0	770,791	301,951	234,616	139,318	39,919	
	Planted in Year 2 and Year 18				770,791	301,951	234,616	139,318	39,919	39,919	39,919	39,919	39,919	39,919	39,919	39,919	39,919	39,919	39,919	39,919	0	770,791	301,951	234,616	139,318	
	Planted in Year 3 and Year 19																			0						
Acacia auriculiformis (15 years rotation)	Planted in Year 1 and Year 17			0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	Planted in Year 2 and Year 18				177,622	63,894	42,651	25,698	8,009	8,009	8,009	8,009	8,009	8,009	8,009	8,009	8,009	8,009	8,009	8,009	0	177,622	63,894	42,651	25,698	
	Planted in Year 3 and Year 19																			0						
SUB-TOTAL (A) partly subsidized by the Project		b10-1		770,791	1,250,365	600,462	416,585	165,017	0	0	0	0	0	0	0	0	0	0	0	0	770,791	1,250,365	600,462	416,585	6,241,423	
SUB-TOTAL (B) 100% contributed by participants		b10-2						39,919	87,847	87,847	87,847	87,847	87,847	87,847	87,847	87,847	87,847	87,847	47,928	0	0	0	0	0	966,318	
TOTAL (A+B)				770,791	1,250,365	600,462	416,585	204,936	87,847	87,847	87,847	87,847	87,847	87,847	87,847	87,847	87,847	87,847	47,928	770,791	1,250,365	600,462	416,585	7,207,741		
<b>11. Material Cost of Reforestation (1,000 VND)</b>			<i>(1. Area Planted) x (9. Unit cost of reforestation - Material cost)</i>																							
Acacia mangium (8 years rotation)	Planted in Year 1 and Year 10			0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	Planted in Year 2 and Year 11				0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	Planted in Year 3 and Year 12					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Acacia mangium (15 years rotation)	Planted in Year 1 and Year 17			238,205	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	238,205	0	0	0	0	476,411	
	Planted in Year 2 and Year 18				238,205	0	0	0	0	0	0	0	0	0	0	0	0	0	0	238,205	0	0	0	0	476,411	
	Planted in Year 3 and Year 19					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Acacia auriculiformis (15 years rotation)	Planted in Year 1 and Year 17			0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	Planted in Year 2 and Year 18				59,737	0	0	0	0	0	0	0	0	0	0	0	0	0	0	59,737	0	0	0	0	119,474	
	Planted in Year 3 and Year 19					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
SUB-TOTAL (subsidized by the project)		b11		238,205	297,942	0	0	0	0	0	0	0	0	0	0	0	0	0	0	238,205	297,942	0	0	0	1,072,296	
<b>12. Cost of Thinning, Harvesting &amp; Internal Transport.</b>			<i>(7. Volume of forest products - Total) x (Unit cost of thinning, harvesting and internal transportation: 100,000 VND/m3)</i>																							
100 =Unit cost (1,000 VND/m3)													0	496,023	514,381	0	0	0	57,293	0	1,693,420	2,072,563	0	0	0	4,833,680
<b>13. Unit Cost of Green Fodder Prod'n (VND 1,000/ha)</b>			<i>(Refer to Table 11)</i>																							
Labor cost				5,100	5,400																				10,500	
Farm manure cost (to be subsidized by the project)				6,000																					6,000	
Material cost (to be subsidized by the project)				4,512	7,700																				12,212	
SUB-TOTAL				15,612	13,100																				28,712	
<b>14. Cost of Green Fodder Production (VND 1,000)</b>			<i>(2. Area of green fodder production) x (13. Unit cost of green fodder production)</i>																							
Labor cost	b14-1			76,500	157,500	81,000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	315,000	
Farm manure cost (to be subsidized by the project)	b14-2			90,000	90,000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	180,000	
Material cost (to be subsidized by the project)	b14-3			67,680	183,180	115,500	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	366,360	
SUB-TOTAL				234,180	430,680	196,500	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	861,360	
<b>15. Cost of Extension &amp; Demonstration (VND 1,000)</b>																										
Technical guidance by local experts				9,000	9,000	9,000	9,000	9,000																	45,000	
Cost of materials				10,000	10,000	5,000	5,000	5,000																	35,000	
SUB-TOTAL				19,000	19,000	14,000	14,000	14,000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	80,000	
<b>16. CDM related Expenses (VND 1,000)</b>																										
Validation				240,000																					240,000	
Monitoring & Technical assistance (by VFU and RCREE)				32,000	32,000	32,000	32,000	48,000	16,000	16,000	16,000	16,000	32,000	16,000	16,000	16,000	16,000	32,000	16,000	16,000	16,000	16,000	16,000	32,000	464,000	
Verification								240,000					240,000					240,000							720,000	
SUB-TOTAL				240,000	32,000	32,000	32,000	288,000	16,000	16,000	16,000	16,000	272,000	16,000	16,000	16,000	16,000	272,000	16,000	16,000	16,000	16,000	16,000	32,000	1,424,000	
<b>17. Management Cost of Social Fund (1,000 VND)</b>			<i>(Refer to Table 12)</i>																							
Administration Cost				57,600	115,200	115,200	115,200	115,200	115,200	115,200	115,200	115,200	115,200	115,200	115,200	115,200	115,200	115,200	115,200	115,200	115,200	115,200	115,200	115,200	2,361,600	
Purchase of Equipment				59,000																					59,000	
SUB-TOTAL				116,600	115,200	115,200	115,200	115,200	115,200	115,200	115,200	115,200	115,200	115,200	115,200	115,200	115,200	115,200	115,200	115,200	115,200	115,200	115,200	115,200	2,420,600	
<b>18. Contingency (5% of all cost items)</b>		5%		17,830	70,469	107,259	47,908	28,889	31,107	10,952	10,952	10,952	35,753	49,471	10,952	10,952	13,817	23,752	93,627	160,638	83,975	36,583	28,189	894,984		
<b>GRAND TOTAL (items 10-12 &amp; 14-18)</b>				374,430	1,479,845	2,252,447	1,006,070	606,675	653,242	229,999	229,999	229,999	750,823	1,038,900	229,999	229,999	290,157	498,799	1,966,175	3,373,398	1,763,483	768,245	591,975	18,794,661		



Table A10-17: FINANCIAL ANALYSIS OF SMALL-SCALE AR-CDM PILOT PROJECT IN CAO PHONG DISTRICT &lt; Social Fund &gt;

<b>&lt;Social Fund&gt;</b>																							
<b>(A) O&amp;M COST (1,000 VND)</b>	Year 0	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10	Year 11	Year 12	Year 13	Year 14	Year 15	Year 16	Year 17	Year 18	Year 19	Year 20	TOTAL	
	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028		
<b>A1. Reforestation Cost</b>	<i>(% subsidized by the association) x (10. Labor cost of reforestation - b10-1) OR (11. Material cost of reforestation - b11,</i>																						
30% Labor cost	0	231,237	375,110	180,138	124,976	49,505	0	0	0	0	0	0	0	0	0	0	0	0	231,237	375,110	180,138	124,976	1,872,427
100% Material Cost	0	238,205	297,942	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	238,205	297,942	0	0	1,072,296
SUB-TOTAL	0	469,443	673,052	180,138	124,976	49,505	0	0	0	0	0	0	0	0	0	0	0	0	469,443	673,052	180,138	124,976	2,944,723
<b>A2. Cost of Green Fodder Production</b>	<i>(% subsidized by the association) x (14. Cost of green fodder production - b14-1, b14-2, b14-3,</i>																						
0% Labor cost	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
30% Farm manure cost	0	27,000	27,000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	54,000
100% Material cost	0	67,680	183,180	115,500	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	366,360
SUB-TOTAL	0	94,680	210,180	115,500	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	420,360
<b>A3. Cost of Extension &amp; Demonstration</b>	<i>(Cost of information dissemination, extension services on reforestation technique, green fodder production, and use of crop residues,</i>																						
100% Technical guidance by experts	0	9,000	9,000	9,000	9,000	9,000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	45,000
100% Cost of materials	0	10,000	10,000	5,000	5,000	5,000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	35,000
SUB-TOTAL	0	19,000	19,000	14,000	14,000	14,000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	80,000
<b>A4. CDM related Expenses</b>																							
100% Validation (to be supported by JICA)	240,000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	240,000
100% Monitoring & Technical assistance by VFU and RCREE	0	32,000	32,000	32,000	32,000	48,000	16,000	16,000	16,000	16,000	32,000	16,000	16,000	16,000	16,000	32,000	16,000	16,000	16,000	16,000	16,000	32,000	464,000
100% Verification	0	0	0	0	0	240,000	0	0	0	0	240,000	0	0	0	0	240,000	0	0	0	0	0	0	720,000
SUB-TOTAL	240,000	32,000	32,000	32,000	32,000	288,000	16,000	16,000	16,000	16,000	272,000	16,000	16,000	16,000	16,000	272,000	16,000	16,000	16,000	16,000	16,000	32,000	1,424,000
<b>A5. Management Cost of Social Fund</b>	<i>(Refer to Table 12)</i>																						
100% Administration Cost	57,600	115,200	115,200	115,200	115,200	115,200	115,200	115,200	115,200	115,200	115,200	115,200	115,200	115,200	115,200	115,200	115,200	115,200	115,200	115,200	115,200	115,200	2,361,600
100% Purchase of Equipment	59,000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	59,000
SUB-TOTAL	116,600	115,200	115,200	115,200	115,200	115,200	115,200	115,200	115,200	115,200	115,200	115,200	115,200	115,200	115,200	115,200	115,200	115,200	115,200	115,200	115,200	115,200	2,420,600
<b>A6. Contingency (5% of A1-A5)</b>	5%	17,830	36,516	52,472	22,842	14,309	23,335	6,560	6,560	6,560	6,560	19,360	6,560	6,560	6,560	6,560	19,360	6,560	30,032	40,213	15,567	13,609	364,484
<b>TOTAL</b>		<b>374,430</b>	<b>766,839</b>	<b>1,101,904</b>	<b>479,680</b>	<b>300,484</b>	<b>490,040</b>	<b>137,760</b>	<b>137,760</b>	<b>137,760</b>	<b>137,760</b>	<b>406,560</b>	<b>137,760</b>	<b>137,760</b>	<b>137,760</b>	<b>137,760</b>	<b>406,560</b>	<b>137,760</b>	<b>630,675</b>	<b>844,465</b>	<b>326,905</b>	<b>285,784</b>	<b>7,654,167</b>
<b>(B) REVENUE (1,000 VND)</b>																							
<b>B1. Share of Benefits from Forest Products</b>	<i>(7. Volume of forest products) x (Benefit share (%) of association) x (Unit price of products,</i>																						
25% Chipwood (D<15cm) Unit price 240 /m3												297,614	308,629	0	0	0	34,376	0	203,210	271,456	0	0	1,115,285
25% R.wood (D>15cm, C=40cm) Unit price 500 /m3												0	0	0	0	0	0	0	423,355	612,926	0	0	1,036,281
25% R.wood (D>15cm, C=50cm) Unit price 600 /m3												0	0	0	0	0	0	0	762,039	875,782	0	0	1,637,821
25% R.wood (D>15cm, C=60cm) Unit price 700 /m3												0	0	0	0	0	0	0	889,046	955,396	0	0	1,844,441
SUB-TOTAL	0	0	0	0	0	0	0	0	0	0	0	297,614	308,629	0	0	0	34,376	0	2,277,650	2,715,560	0	0	5,633,828
<b>B2. Shared Benefit from the Sales of tCER</b>	<i>(8. tCER expected) x (Benefit share (%) of association) x (Unit price of tCER)</i>																						
Q'ty of tCER (CO2 ton)						5,350						18,608					37,546						61,504
Benefit from tCER 50% 32 /tCER							85,600					297,728					600,736						984,064
<b>B3. Capital / Donation</b>	500,000	1,000,000	1,000,000	1,000,000																			3,500,000
<b>B4. Support/Subsidy from Gov. Program and/or Others</b>	240,000																						240,000
<b>B5. Other income</b>																							0
<b>B6. Interest of Deposit</b>		18,279	30,850	27,298	54,679	42,388	20,006	18,398	12,430	6,164	14,464	10,291	18,804	12,856	6,611	1,772	-18,467	117,641	227,767	196,932	190,434	1,009,597	
<b>TOTAL</b>	<b>740,000</b>	<b>1,018,279</b>	<b>1,030,850</b>	<b>1,027,298</b>	<b>54,679</b>	<b>42,388</b>	<b>105,606</b>	<b>18,398</b>	<b>12,430</b>	<b>303,777</b>	<b>323,093</b>	<b>308,019</b>	<b>18,804</b>	<b>12,856</b>	<b>40,987</b>	<b>1,772</b>	<b>2,859,919</b>	<b>2,833,201</b>	<b>227,767</b>	<b>196,932</b>	<b>190,434</b>	<b>11,367,489</b>	
<b>CASH FLOW (B-A)</b>	365,570	251,440	-71,053	547,617	-245,806	-447,652	-32,154	-119,362	-125,330	166,017	-83,467	170,259	-118,956	-124,904	-96,773	-404,788	2,722,159	2,202,526	-616,697	-129,973	-95,351	3,713,322	
<b>CASH (end of year)</b>	365,570	617,010	545,956	1,093,574	847,768	400,116	367,962	248,600	123,270	289,288	205,821	376,080	257,124	132,220	35,446	-369,341	2,352,818	4,555,344	3,938,646	3,808,673	3,713,322		
<b>CASH (end of year) (without donation and support)</b>	-374,430	-1,122,990	-2,194,044	-2,646,426	-2,892,232	-3,339,884	-3,372,038	-3,491,400	-3,616,730	-3,450,712	-3,534,179	-3,363,920	-3,482,876	-3,607,780	-3,704,554	-4,109,341	-1,387,182	1,284,786	198,646	68,673	-26,678		
<b>B6. Interest of Deposit</b>		-56,150	-109,702	-132,321	-144,612	-166,994	-168,602	-174,570	-180,836	-172,536	-176,709	-168,196	-174,144	-180,389	-185,228	-205,467	-69,359	64,239	9,932	3,434	-1,334		

Table A10-18: FINANCIAL ANALYSIS OF SMALL-SCALE AR-CDM PILOT PROJECT IN CAO PHONG DISTRICT &lt; Project Participants &gt;

<b>&lt;Participants&gt;</b>																								
<b>(A) O&amp;M COST (1,000 VND)</b>		2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	TOTAL	
		Year 0	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10	Year 11	Year 12	Year 13	Year 14	Year 15	Year 16	Year 17	Year 18	Year 19	Year 20		
<b>A1. Reforestation Cost</b>		<i>(% shouldered by participants) x (10. Labor cost of reforestation - b10-1) + b10-2: (% shouldered by participants) x (11. Material cost of reforestation - b11,</i>																						
70% Labor cost		0	539,554	875,256	420,323	291,610	155,431	87,847	87,847	87,847	87,847	87,847	87,847	87,847	87,847	87,847	87,847	47,928	539,554	875,256	420,323	291,610	5,335,314	
0% Material cost		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
SUB-TOTAL		0	539,554	875,256	420,323	291,610	155,431	87,847	87,847	87,847	87,847	87,847	87,847	87,847	87,847	87,847	87,847	47,928	539,554	875,256	420,323	291,610	5,335,314	
<b>A2. Cost of Green Fodder Production</b>		<i>(% shouldered by participants) x (14. Cost of green fodder production - b14-1, b14-2, b14-3,</i>																						
100% Labor cost		0	76,500	157,500	81,000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	315,000	
70% Farm manure cost		0	63,000	63,000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	126,000	
0% Material cost		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
SUB-TOTAL		0	139,500	220,500	81,000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	441,000	
<b>A3. Cost of Thinning, Harvesting and Internal Transportation</b>		<i>(12. Cost of thinning, harvesting and internal transportation,</i>																						
Labor cost		0	0	0	0	0	0	0	0	0	496,023	514,381	0	0	0	57,293	0	1,693,420	2,072,563	0	0	0	4,833,680	
<b>A4. Contingency (5% of O&amp;M cost)</b>		5%	0	33,953	54,788	25,066	14,580	7,772	4,392	4,392	4,392	29,193	30,111	4,392	4,392	4,392	7,257	4,392	87,067	130,606	43,763	21,016	14,580	530,500
<b>TOTAL</b>		<b>300 HHs</b>	<b>0</b>	<b>713,007</b>	<b>1,150,543</b>	<b>526,389</b>	<b>306,190</b>	<b>163,202</b>	<b>92,239</b>	<b>92,239</b>	<b>92,239</b>	<b>613,063</b>	<b>632,340</b>	<b>92,239</b>	<b>92,239</b>	<b>92,239</b>	<b>152,397</b>	<b>92,239</b>	<b>1,828,415</b>	<b>2,742,723</b>	<b>919,018</b>	<b>441,339</b>	<b>306,190</b>	<b>11,140,494</b>
Labor contribution per ha of plantation			0	1,997	3,348	1,625	945	504	285	285	285	1,893	1,952	285	285	285	470	285	5,645	8,467	2,837	1,362	945	33,984
Purchase of materials per ha of plantation			0	204	204	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	408
<b>(B) REVENUE (1,000 VND)</b>																								
<b>B1. Economic Incentives of Reforestation</b>		<i>(A1. Reforestation cost - Labor cost),</i>																						
Labor cost		0	231,237	375,110	180,138	124,976	49,505	0	0	0	0	0	0	0	0	0	0	0	0	231,237	375,110	180,138	124,976	1,872,427
<b>B2. Share of Benefits from Forest Products</b>		<i>(7. Volume of forest products) x (Benefit share (%) of participants) x (Unit price of products),</i>																						
75% Chipwood (D<15cm)	Unit price 240 /m3					0	0	0	0	0	892,841	925,886	0	0	0	103,127	0	609,631	814,368	0	0	0	0	3,345,854
75% R.wood (D>15cm, C=40cm)	500 /m3					0	0	0	0	0	0	0	0	0	0	0	0	1,270,065	1,838,779	0	0	0	0	3,108,844
75% R.wood (D>15cm, C=50cm)	600 /m3					0	0	0	0	0	0	0	0	0	0	0	0	2,286,117	2,627,346	0	0	0	0	4,913,463
75% R.wood (D>15cm, C=60cm)	700 /m3					0	0	0	0	0	0	0	0	0	0	0	0	2,667,137	2,866,187	0	0	0	0	5,533,323
SUB-TOTAL			0	0	0	0	0	0	0	0	892,841	925,886	0	0	0	103,127	0	6,832,950	8,146,680	0	0	0	0	16,901,484
<b>B3. Shared Benefit from the Sales of tCER</b>		<i>(8. tCER expected) x (Benefit share (%) of participants) x (Unit price of tCER)</i>																						
Quantity of tCER	Unit price					5,350	0	0	0	0	0	18,608	0	0	0	0	0	37,546	0	0	0	0	0	61,504
Benefit from tCER	50% 32					0	85,600	0	0	0	0	0	297,728	0	0	0	0	600,736	0	0	0	0	0	984,064
<b>B4. Increased Income from Livestock Raising</b>																								
<b>B5. Other income</b>																								
<b>TOTAL</b>		<b>0</b>	<b>231,237</b>	<b>375,110</b>	<b>180,138</b>	<b>124,976</b>	<b>49,505</b>	<b>85,600</b>	<b>0</b>	<b>0</b>	<b>892,841</b>	<b>925,886</b>	<b>297,728</b>	<b>0</b>	<b>0</b>	<b>103,127</b>	<b>0</b>	<b>7,433,686</b>	<b>8,377,918</b>	<b>375,110</b>	<b>180,138</b>	<b>124,976</b>	<b>19,757,975</b>	
Ave. cash revenue per ha of plantation (1,000 VND)			750	1,216	584	405	160	277	0	0	2,894	3,001	965	0	0	334	0	24,096	27,157	1,216	584	405	64,046	
Ave. cumulative cash revenue per ha of plantation(1,000 VND)			750	1,965	2,549	2,955	3,115	3,392	3,392	3,392	6,287	9,288	10,253	10,253	10,253	10,587	10,587	34,684	61,841	63,057	63,641	64,046		
<b>CASH FLOW PER HA OF PLANTATION (B-A)</b>		<b>0</b>	<b>-1,452</b>	<b>-2,336</b>	<b>-1,041</b>	<b>-540</b>	<b>-343</b>	<b>-7</b>	<b>-285</b>	<b>-285</b>	<b>1,002</b>	<b>1,049</b>	<b>680</b>	<b>-285</b>	<b>-285</b>	<b>-136</b>	<b>-285</b>	<b>18,452</b>	<b>18,690</b>	<b>-1,621</b>	<b>-779</b>	<b>-540</b>	<b>29,653</b>	
<b>CASH @end of year PER HA OF PLANTATION</b>		<b>0</b>	<b>-1,452</b>	<b>-3,788</b>	<b>-4,829</b>	<b>-5,369</b>	<b>-5,712</b>	<b>-5,719</b>	<b>-6,004</b>	<b>-6,289</b>	<b>-5,287</b>	<b>-4,238</b>	<b>-3,558</b>	<b>-3,843</b>	<b>-4,128</b>	<b>-4,264</b>	<b>-4,548</b>	<b>13,903</b>	<b>32,593</b>	<b>30,972</b>	<b>30,193</b>	<b>29,653</b>		

Table A10-19 Financial Internal Rate of Return of the Project

Case-1: Counting the donation &amp; support as benefit.

(Unit: million VND)

Year	Project Cost								Project Benefit					B - C	
	Reforestation	Thinning, harvesting	Green fodder production	Extension and	CDM related cost	Project management	Contingency	Total	Forest products	t-CERs	Donation	Support/ subsidy	Other income #		Total
Year 0 2008					240	117	18	374			500	240		740	366
Year 1 2009	1,009		234	19	32	115	70	1,480			1,000		18	1,018	-462
Year 2 2010	1,548		431	19	32	115	107	2,252			1,000		31	1,031	-1,222
Year 3 2011	600		197	14	32	115	48	1,006			1,000		27	1,027	21
Year 4 2012	417			14	32	115	29	607					55	55	-552
Year 5 2013	205			14	288	115	31	653					42	42	-611
Year 6 2014	88				16	115	11	230		171			20	191	-39
Year 7 2015	88				16	115	11	230					18	18	-212
Year 8 2016	88				16	115	11	230					12	12	-218
Year 9 2017	88	496			16	115	36	751	1,190				6	1,197	446
Year 10 2018	88	514			272	115	49	1,039	1,235				14	1,249	210
Year 11 2019	88				16	115	11	230		595			10	606	376
Year 12 2020	88				16	115	11	230					19	19	-211
Year 13 2021	88				16	115	11	230					13	13	-217
Year 14 2022	88	57			16	115	14	290	138				7	144	-146
Year 15 2023	88				272	115	24	499					2	2	-497
Year 16 2024	48	1,693				115	94	1,950	9,111	1,201			-18	10,294	8,343
Year 17 2025		2,073				115	161	2,348	10,862				118	10,980	8,631

#: Bank interest

FIRR:	15%	@t-CER price of US\$2.0	1,456 NPV of B-C at
	18%	@t-CER price of US\$5.0	2,229 10% discount rate
	22%	@t-CER price of US\$10.0	3,517

Table A10-20 Financial Internal Rate of Return of the Project

Case-2: Exclusion of donations and support from benefits and adding the assumed cost of PDD preparation (VND 100 million) at Year 0

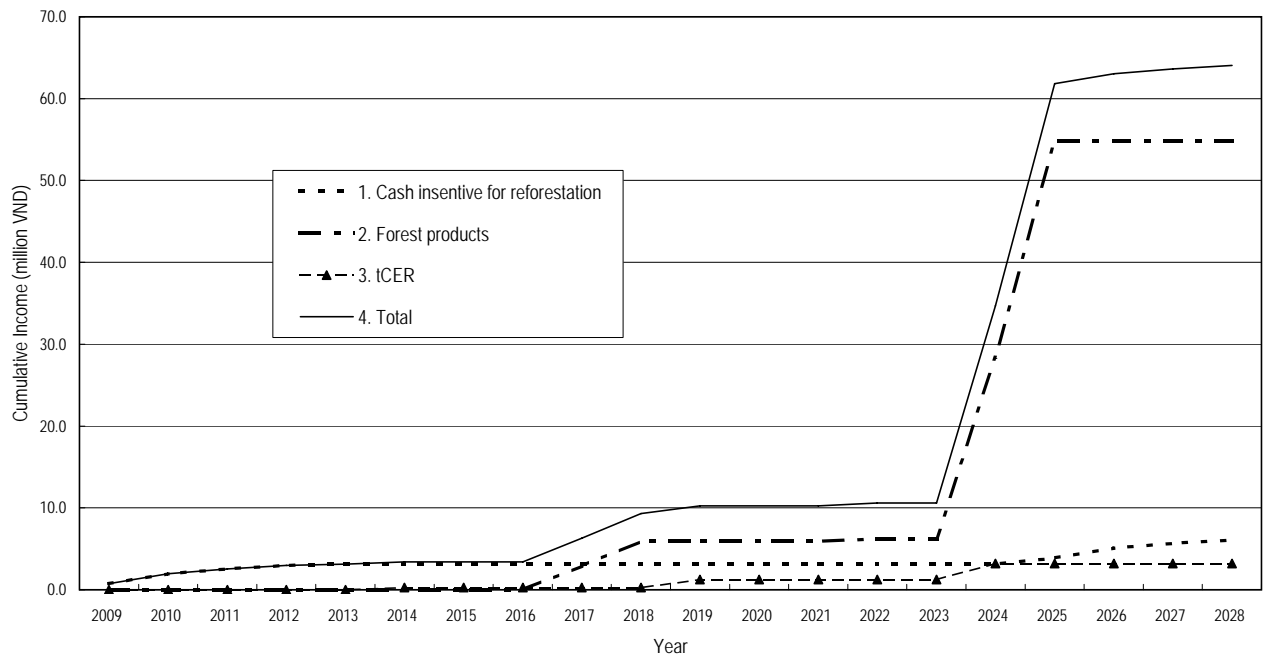
(Unit: million VND)

Year	Project Cost								Project Benefit					B - C	
	Reforestation	Thinning, harvesting	Green fodder production	Extension and	CDM related cost	Project management	Contingency	Total	Forest products	t-CERs	Donation	Support/ subsidy	Other income #		Total
Year 0 2008					340	117	18	474							-474
Year 1 2009	1,009		234	19	32	115	70	1,480					-56	-56	-1,536
Year 2 2010	1,548		431	19	32	115	107	2,252					-110	-110	-2,362
Year 3 2011	600		197	14	32	115	48	1,006					-132	-132	-1,138
Year 4 2012	417			14	32	115	29	607					-145	-145	-751
Year 5 2013	205			14	288	115	31	653					-167	-167	-820
Year 6 2014	88				16	115	11	230		171			-169	3	-227
Year 7 2015	88				16	115	11	230					-175	-175	-405
Year 8 2016	88				16	115	11	230					-181	-181	-411
Year 9 2017	88	496			16	115	36	751	1,190				-173	1,018	267
Year 10 2018	88	514			272	115	49	1,039	1,235				-177	1,058	19
Year 11 2019	88				16	115	11	230		595			-168	427	197
Year 12 2020	88				16	115	11	230					-174	-174	-404
Year 13 2021	88				16	115	11	230					-180	-180	-410
Year 14 2022	88	57			16	115	14	290	138				-185	-48	-338
Year 15 2023	88				272	115	24	499					-205	-205	-704
Year 16 2024	48	1,693				115	94	1,950	9,111	1,201			-69	10,243	8,293
Year 17 2025		2,073				115	161	2,348	10,862				64	10,926	8,578

#: Bank interest

FIRR:	5%	@t-CER price of US\$2.0	-2,765 NPV of B-C at
	6%	@t-CER price of US\$5.0	-1,993 10% discount rate
	9%	@t-CER price of US\$10.0	-704

Figure A10-1: Cumulative Cash Revenue per ha of Plantation by Source (after sharing benefits)



Cumulative Cash Revenue per ha of plantation by source (after sharing of benefit)

	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028
1. Cash incentive	0.7	2.0	2.5	3.0	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.9	5.1	5.7	6.1
2. Forest products									2.9	5.9	5.9	5.9	5.9	6.2	6.2	28.4	54.8	54.8	54.8	54.8
3. tCER						0.3	0.3	0.3	0.3	0.3	1.2	1.2	1.2	1.2	1.2	3.2	3.2	3.2	3.2	3.2
4. Total	0.7	2.0	2.5	3.0	3.1	3.4	3.4	3.4	6.3	9.3	10.3	10.3	10.3	10.6	10.6	34.7	61.8	63.1	63.6	64.0

Note: Unit price of tCER: US\$2.0=32,000 VND

Figure A10-2: IMPLEMENTATION SCHEDULE OF THE SMALL-SCALE AR-CDM PILOT PROJECT

Activities	2007		2008 (Year 0)				2009 (Year 1)				2010 (Year 2)				2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028				
	11	12	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	(Y3)	(Y4)	(Y5)	(Y6)	(Y7)	(Y8)	(Y9)	(Y10)	(Y11)	(Y12)	(Y13)	(Y14)	(Y15)	(Y16)	(Y17)	(Y18)	(Y19)	(Y20)				
1 Complete draft plan of the project	★																																			
2 Complete final plan of the project			★																																	
3 Establishing a Social Fund																																				
3.1 Set up fund founding board																																				
3.2 Prepare application documents																																				
3.3 Application to Hoa Binh PPC																																				
3.4 Permission for establishment of a Social Fund																																				
3.5 Set up management board and control board of the Social Fund																																				
3.6 Set up rules and norms of the project																																				
4 Stakeholders meetings																																				
5 Organize groups of participants																																				
Select group leaders																																				
Set up rules of the group																																				
6 Signing of contracts between the Fund and participants																																				
7 Participatory preparation of detailed work plan																																				
8 Green fodder production																																				
Planting and management (1)																																				
Planting and management (2)																																				
9 Plantation establishment at Year 1																																				
<Acacia mangium: 146.5 ha - 15 years rotation>																																				
Land clearing and preparation for planting																																				
Planting																																				
Tending																																				
Protection																																				
Thinning																																				
Harvesting																																				
2nd rotation																																				
10 Plantation establishment at Year 2																																				
<Acacia mangium: 146.5 ha - 15 years rotation>																																				
Land clearing and preparation for planting																																				
Planting																																				
Tending																																				
Protection																																				
Thinning																																				
Harvesting																																				
2nd rotation																																				
<Acacia auriculiformis: 27.2 ha - 15 years rotation>																																				
Land clearing and preparation for planting																																				
Planting																																				
Tending																																				
Protection																																				
Thinning																																				
Harvesting																																				
2nd rotation																																				
11 Extension activities																																				
12 Project management and supervision																																				
13 Application of PDD for DNA																																				
14 Validation of AR-CDM project by DOE																																				
15 Verification and certification by DOE																																				

*Appendix-11*  
*Data of forest in Vietnam*

Table A11-1. CURRENT FOREST STATUS

Regional/ province	Forest area				SPECIAL-USE FOREST				PROTECTION FOREST				PRODUCTION FOREST			
	Total	Natural F	Plantation	Bare Land	Total	Natural F	Plantation	Bare Land	Total	Natural F	Plantation	Bare Land	Total	Natural F	Plantation	Bare Land
<b>Total</b>	<b>18,445,502</b>	<b>10,373,616</b>	<b>2,423,793</b>	<b>5,648,093</b>	<b>2,400,281</b>	<b>1,937,123</b>	<b>89,353</b>	<b>373,805</b>	<b>9,150,864</b>	<b>5,179,394</b>	<b>825,566</b>	<b>3,145,904</b>	<b>6,894,357</b>	<b>3,257,099</b>	<b>1,508,874</b>	<b>2,128,384</b>
Hoà Bình	341,882	152,551	55,302	134,029	46,587	34,316	1,532	10,739	204,981	108,418	25,471	71,092	90,314	9,817	28,299	52,198
Điện Biên	769,208	362,033	13,108	394,067	45,876	27,166	0	18,710	720,304	334,306	10,792	375,205	3,028	561	2,316	151
Sơn La	965,191	556,066	33,688	375,438	71,589	48,978	1,871	20,739	774,895	474,321	22,021	278,553	118,708	32,767	9,796	76,145
Lai Châu	790,424	324,504	15,498	450,423	138,727	68,899	0	69,829	595,590	255,605	12,581	327,404	56,107	0	2,917	53,190
<b>Northwest</b>	<b>2,866,705</b>	<b>1,395,154</b>	<b>117,595</b>	<b>1,353,956</b>	<b>302,779</b>	<b>179,358</b>	<b>3,403</b>	<b>120,017</b>	<b>2,295,770</b>	<b>1,172,651</b>	<b>70,864</b>	<b>1,052,254</b>	<b>268,156</b>	<b>43,144</b>	<b>43,328</b>	<b>181,684</b>
Vinh Phúc	33,089	9,396	17,792	5,900	15,437	8,132	3,885	3,420	7,130	1,139	5,103	888	10,522	125	8,804	1,592
Phú Thọ	198,711	64,065	103,053	31,593	16,256	9,198	1,178	5,881	87,009	54,008	19,054	13,947	95,446	859	82,821	11,766
T. Quang	445,848	284,984	81,198	79,666	80,243	60,527	6,728	12,989	248,927	183,448	24,372	41,108	116,677	41,010	50,098	25,570
Yên Bái	538,820	229,428	145,629	163,763	35,248	23,375	97	11,776	295,863	157,415	35,314	103,134	207,709	48,638	110,218	48,853
T. Nguyễn	186,666	101,722	63,383	21,560	32,891	25,444	2,864	4,583	90,240	59,845	23,803	6,592	63,535	16,433	36,716	10,386
Bắc Kạn	420,991	224,151	39,353	157,487	25,984	23,894	592	1,498	118,449	65,573	5,699	47,177	276,557	134,685	33,061	108,811
Bắc Giang	185,689	69,899	81,382	34,408	15,411	14,165	516	730	68,210	30,963	25,868	11,379	102,068	24,771	54,999	22,299
Cao Bằng	582,908	301,797	14,982	266,129	18,152	13,533	131	4,488	335,478	179,942	5,500	150,036	229,278	108,322	9,351	111,605
Hà Giang	402,495	329,342	42,064	31,090	57,959	54,625	2,499	836	254,655	213,623	17,375	23,656	89,881	61,094	22,190	6,598
Lào Cai	419,468	245,371	50,874	123,223	22,274	19,906	960	1,408	245,695	179,486	24,432	41,777	151,499	45,979	25,482	80,038
Lang Sơn	649,585	247,778	144,002	257,805	29,122	17,612	1,057	10,453	243,388	103,968	30,147	109,273	377,075	126,198	112,798	138,079
Q. Ninh	433,366	165,844	104,986	162,536	30,387	23,732	2,211	4,444	164,162	74,942	36,782	52,438	238,817	67,170	65,993	105,654
<b>Northeast</b>	<b>4,497,635</b>	<b>2,273,777</b>	<b>888,696</b>	<b>1,335,162</b>	<b>379,365</b>	<b>294,142</b>	<b>22,718</b>	<b>62,505</b>	<b>2,159,207</b>	<b>1,304,354</b>	<b>253,448</b>	<b>601,405</b>	<b>1,959,064</b>	<b>675,282</b>	<b>612,531</b>	<b>671,251</b>
Hà Tây	20,567	5,436	10,232	4,899	9,546	3,885	4,092	1,569	5,841	1,542	2,525	1,774	5,180	9	3,615	1,556
<b>Hung Yen</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>
Bắc Ninh	774	0	733	41	504	0	480	24	270	0	253	17	0	0	0	0
Hải Dương	11,936	2,335	9,414	187	1,577	0	1,577	0	7,046	2,335	4,710	0	3,313	0	3,127	187
Nam Định	8,321	0	4,181	4,141	3,100	0	1,650	1,450	5,221	0	2,531	2,691	0	0	0	0
Hải Phòng	26,772	10,773	6,217	9,782	10,359	7,994	539	1,826	16,413	2,779	5,678	7,957	0	0	0	0
Thái Bình	25,574	0	6,973	18,601	6,054	0	2,259	3,795	19,520	0	4,714	14,806	0	0	0	0
Hà Nam	9,634	6,716	2,170	747	0	0	0	0	9,518	6,716	2,055	747	116	0	116	0
Ninh Bình	30,771	23,631	3,407	3,733	16,419	16,224	75	119	12,067	7,407	2,865	1,795	2,285	0	467	1,819
Hà Nội	5,595	0	5,398	197	1,483	0	1,468	15	4,112	0	3,931	182	0	0	0	0
<b>Red River Basin</b>	<b>139,943</b>	<b>48,892</b>	<b>48,724</b>	<b>42,327</b>	<b>49,042</b>	<b>28,104</b>	<b>12,140</b>	<b>8,798</b>	<b>80,008</b>	<b>20,779</b>	<b>29,261</b>	<b>29,968</b>	<b>10,894</b>	<b>9</b>	<b>7,324</b>	<b>3,561</b>
TTHuế	282,706	204,901	77,804	0	56,792	53,120	3,672	0	128,889	110,144	18,745	0	97,025	41,637	55,388	0
Hà Tĩnh	371,010	217,238	85,283	68,489	80,679	75,093	771	4,814	206,342	110,493	50,512	45,337	83,989	31,652	33,999	18,338
Nghệ An	1,178,182	689,078	88,282	400,823	222,454	191,515	4,099	26,840	556,582	321,952	27,156	207,474	399,147	175,610	57,027	166,509
Quảng Trị	345,138	133,256	77,596	134,286	40,796	33,042	551	7,203	186,796	77,215	34,112	75,469	117,546	22,999	42,933	51,614
Thanh Hoá	701,325	369,702	115,521	216,102	90,713	78,322	1,130	11,261	276,573	171,987	31,166	73,420	334,040	119,393	83,225	131,422
Q. Bình	641,731	457,323	78,724	105,684	147,424	147,198	70	156	218,880	145,905	30,195	42,780	275,427	164,220	48,459	62,748
<b>North Central</b>	<b>3,520,092</b>	<b>2,071,498</b>	<b>523,211</b>	<b>925,383</b>	<b>638,857</b>	<b>578,291</b>	<b>10,292</b>	<b>50,274</b>	<b>1,574,062</b>	<b>937,696</b>	<b>191,886</b>	<b>444,480</b>	<b>1,307,173</b>	<b>555,511</b>	<b>321,032</b>	<b>430,630</b>

Table A11-1. CURRENT FOREST STATUS

Regional/ province	Forest area				SPECIAL-USE FOREST				PROTECTION FOREST				PRODUCTION FOREST			
	Total	Natural F	Plantation	Bare Land	Total	Natural F	Plantation	Bare Land	Total	Natural F	Plantation	Bare Land	Total	Natural F	Plantation	Bare Land
Bình Định	379,716	185,883	64,593	129,240	0	0	0	0	199,998	111,218	22,179	66,601	179,718	74,665	42,414	62,639
B. Thuận	401,509	264,108	23,460	113,941	36,900	30,450	39	6,411	224,774	146,237	4,271	74,266	139,835	87,421	19,150	33,264
Đà Nẵng	60,989	38,781	18,839	3,369	21,435	12,926	6,355	2,154	15,877	11,974	3,256	648	23,677	13,881	9,228	567
K. Hoà	319,118	163,338	26,847	128,932	17,609	11,756	559	5,294	205,391	100,986	15,366	89,040	96,118	50,597	10,923	34,598
Q. Ngãi	303,107	105,509	91,544	106,054	8,528	4,312	722	3,494	180,984	94,757	24,889	61,338	113,595	6,440	65,933	41,222
N. Thuận	239,353	142,814	6,173	90,366	42,327	32,404	364	9,559	176,704	91,270	5,705	79,729	20,322	19,140	104	1,078
Phú Yên	262,865	126,914	34,451	101,500	21,222	14,402	1,670	5,149	126,331	53,266	18,708	54,358	115,312	59,246	14,073	41,993
Q. Nam	788,913	390,135	57,160	341,618	112,714	84,141	1,411	27,162	565,264	280,670	21,466	263,128	110,935	25,324	34,283	51,328
<b>South Central</b>	<b>2,755,569</b>	<b>1,417,481</b>	<b>323,068</b>	<b>1,015,020</b>	<b>260,734</b>	<b>190,390</b>	<b>11,121</b>	<b>59,223</b>	<b>1,695,324</b>	<b>890,377</b>	<b>115,839</b>	<b>689,108</b>	<b>799,511</b>	<b>336,714</b>	<b>196,108</b>	<b>266,689</b>
Đắk Nông	413,100	360,166	8,315	44,619	32,630	31,083	5	1,543	76,267	69,718	1,507	5,042	304,203	259,365	6,804	38,035
Lâm Đồng	649,368	542,319	49,924	57,126	91,770	79,802	2,539	9,429	211,075	176,813	16,167	18,095	346,524	285,704	31,218	29,602
Đắk Lắk	616,410	578,119	18,412	19,879	233,582	227,315	448	5,819	136,516	125,540	6,934	4,041	246,312	225,264	11,030	10,019
Kon Tum	793,976	622,977	33,844	137,156	99,092	90,220	424	8,448	245,797	198,606	7,477	39,714	449,087	334,150	25,942	88,995
Gia Lai	1,069,104	712,742	35,543	320,820	57,603	53,582	125	3,896	280,806	169,208	13,244	98,354	730,695	489,952	22,173	218,570
<b>Central Highlands</b>	<b>3,541,957</b>	<b>2,816,321</b>	<b>146,037</b>	<b>579,599</b>	<b>514,677</b>	<b>482,002</b>	<b>3,541</b>	<b>29,134</b>	<b>950,460</b>	<b>739,884</b>	<b>45,330</b>	<b>165,245</b>	<b>2,076,820</b>	<b>1,594,435</b>	<b>97,166</b>	<b>385,219</b>
BR-VT	37,802	14,742	13,501	9,559	17,287	11,678	1,088	4,521	14,056	3,064	6,466	4,526	6,459	0	5,947	512
TP.HCM	36,183	11,617	21,916	2,650	30	0	26	4	33,860	11,064	20,154	2,643	2,293	553	1,736	4
B. Phước	341,006	116,865	16,726	207,415	32,556	30,717	197	1,641	161,036	52,790	10,664	97,583	147,414	33,358	5,865	108,192
B. Dương	18,767	1,148	14,932	2,688	0	0	0	0	4,024	699	2,536	789	14,743	449	12,396	1,899
Đồng Nai	194,971	110,230	45,574	39,167	93,480	79,904	2,576	11,001	54,087	13,542	22,634	17,912	47,404	16,785	20,365	10,254
Tây Ninh	70,499	35,442	8,684	26,373	32,200	21,410	3,456	7,334	35,516	13,780	5,044	16,692	2,783	252	184	2,347
<b>Southeast</b>	<b>699,228</b>	<b>290,044</b>	<b>121,332</b>	<b>287,852</b>	<b>175,553</b>	<b>143,709</b>	<b>7,343</b>	<b>24,500</b>	<b>302,579</b>	<b>94,938</b>	<b>67,497</b>	<b>140,144</b>	<b>221,096</b>	<b>51,397</b>	<b>46,492</b>	<b>123,208</b>
Bạc Liêu	8,051	2,760	2,721	2,571	792	40	155	597	6,368	2,720	1,674	1,974	892	0	892	0
Cà Mau	145,639	8,652	88,298	48,689	19,138	6,164	6,808	6,165	14,072	1,884	9,322	2,865	112,430	603	72,168	39,659
An Giang	21,060	583	13,531	6,946	1,586	0	967	618	14,791	583	9,886	4,322	4,683	0	2,677	2,006
Đồng Tháp	16,515	0	10,872	5,643	7,653	0	3,087	4,566	2,742	0	2,648	95	6,120	0	5,138	982
Long An	67,493	800	65,827	866	2,000	800	1,200	0	1,608	0	1,608	0	63,886	0	63,020	866
Hậu Giang	5,072	0	2,510	2,562	2,805	0	1,355	1,450	0	0	0	0	2,267	0	1,155	1,112
Bến Tre	14,192	1,068	2,621	10,503	2,647	862	1,093	692	4,100	203	1,223	2,674	7,445	3	305	7,137
Vinh Long	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Sóc Trăng	10,253	1,590	8,627	36	261	0	225	36	5,531	1,590	3,941	0	4,461	0	4,461	0
Tiền Giang	11,686	0	11,686	0	101	0	101	0	1,691	0	1,691	0	9,894	0	9,894	0
Cần Thơ	229	0	229	0	0	0	0	0	0	0	0	0	229	0	229	0
Trà Vinh	12,365	1,308	5,144	5,913	0	0	0	0	12,365	1,308	5,144	5,913	0	0	0	0
Kiên Giang	111,817	43,687	43,064	25,066	42,294	33,261	3,805	5,229	30,188	10,426	14,305	5,457	39,335	0	24,955	14,380
<b>Mekong Delta</b>	<b>424,373</b>	<b>60,448</b>	<b>255,130</b>	<b>108,795</b>	<b>79,275</b>	<b>41,127</b>	<b>18,795</b>	<b>19,353</b>	<b>93,456</b>	<b>18,715</b>	<b>51,441</b>	<b>23,300</b>	<b>251,642</b>	<b>606</b>	<b>184,894</b>	<b>66,142</b>



Table A11-2. BARE LAND (IA+IB) IN FOREST LAND

Unit: Ha

Regional/ province	Forest area					SPECIAL-USE FOREST					PROTECTION FOREST					PRODUCTION FOREST				
	Total Forest	IA	IB	IA+IB	IA+IB (%)	Total Forest	IA	IB	IA+IB	IA+IB (%)	Total Forest	IA	IB	IA+IB	IA+IB (%)	Total Forest	IA	IB	IA+IB	IA+IB (%)
<b>Total</b>	<b>18,445,502</b>	<b>1,626,305</b>	<b>1,549,258</b>	<b>3,175,564</b>	<b>17%</b>	<b>2,400,281</b>	<b>118,571</b>	<b>91,776</b>	<b>210,348</b>	<b>9%</b>	<b>9,150,864</b>	<b>951,858</b>	<b>818,109</b>	<b>1,769,967</b>	<b>19%</b>	<b>6,894,357</b>	<b>555,876</b>	<b>639,373</b>	<b>1,195,249</b>	<b>17%</b>
Hoà Bình	341,882	103,145	8,255	111,400	33%	46,587	8,528	98	8,626	19%	204,981	53,258	3,514	56,772	28%	90,314	41,360	4,643	46,003	51%
Điên Biên	769,208	245,380	71,112	316,492	41%	45,876	10,232	754	10,986	24%	720,304	235,064	70,335	305,399	42%	3,028	84	23	107	4%
Son La	965,191	127,243	72,375	199,618	21%	71,589	4,703	7,953	12,657	18%	774,895	87,164	41,761	128,925	17%	118,708	35,375	22,660	58,036	49%
Lai Châu	790,424	244,852	116,231	361,083	46%	138,727	46,921	14,575	61,496	44%	595,590	167,775	87,120	254,894	43%	56,107	30,156	14,537	44,693	80%
<b>Northwest</b>	<b>2,866,705</b>	<b>720,621</b>	<b>267,973</b>	<b>988,594</b>	<b>34%</b>	<b>302,779</b>	<b>70,384</b>	<b>23,380</b>	<b>93,765</b>	<b>31%</b>	<b>2,295,770</b>	<b>543,262</b>	<b>202,729</b>	<b>745,991</b>	<b>32%</b>	<b>268,156</b>	<b>106,975</b>	<b>41,864</b>	<b>148,838</b>	<b>56%</b>
Vinh Phúc	33,089	2,447	2,164	4,612	14%	15,437	510	1,779	2,289	15%	7,130	579	204	783	11%	10,522	1,358	182	1,540	15%
Phú Thọ	198,711	4,047	6,203	10,250	5%	16,256	149	72	221	1%	87,009	0	2,827	2,827	3%	95,446	3,898	3,304	7,202	8%
T. Quang	445,848	28,605	14,414	43,019	10%	80,243	1,060	781	1,841	2%	248,927	16,831	7,882	24,713	10%	116,677	10,715	5,751	16,466	14%
Yên Bái	538,820	39,328	45,901	85,229	16%	35,248	2,826	4,231	7,057	20%	295,863	24,804	24,484	49,288	17%	207,709	11,698	17,186	28,884	14%
T. Nguyễn	186,666	3,954	9,704	13,659	7%	32,891	407	1,183	1,589	5%	90,240	1,877	3,390	5,267	6%	63,535	1,671	5,132	6,803	11%
Bắc Kạn	420,991	17,633	20,008	37,641	9%	25,984	74	246	319	1%	118,449	6,216	9,805	16,021	14%	276,557	11,343	9,957	21,300	8%
Bắc Giang	185,689	4,871	6,166	11,037	6%	15,411	279	193	472	3%	68,210	2,649	1,852	4,501	7%	102,068	1,944	4,121	6,065	6%
Cao Bằng	582,908	55,367	65,022	120,389	21%	18,152	480	1,511	1,991	11%	335,478	14,458	22,740	37,198	11%	229,278	40,429	40,771	81,200	35%
Hà Giang	402,495	2,487	2,796	5,283	1%	57,959	0	179	179	0%	254,655	2,037	1,562	3,599	1%	89,881	450	1,055	1,505	2%
Lào Cai	419,468	56,757	22,786	79,544	19%	22,274	1,247	99	1,346	6%	245,695	19,689	8,970	28,659	12%	151,499	35,821	13,718	49,539	33%
Lạng Sơn	649,585	86,296	74,187	160,483	25%	29,122	893	3,349	4,242	15%	243,388	49,784	29,810	79,594	33%	377,075	35,619	41,028	76,647	20%
Q. Ninh	433,366	58,448	55,912	114,360	26%	30,387	2,690	402	3,092	10%	164,162	22,551	15,550	38,101	23%	238,817	33,207	39,960	73,167	31%
<b>Northeast</b>	<b>4,497,635</b>	<b>360,241</b>	<b>325,263</b>	<b>685,504</b>	<b>15%</b>	<b>379,365</b>	<b>10,615</b>	<b>14,023</b>	<b>24,638</b>	<b>6%</b>	<b>2,159,207</b>	<b>161,474</b>	<b>129,077</b>	<b>290,551</b>	<b>13%</b>	<b>1,959,064</b>	<b>188,152</b>	<b>182,164</b>	<b>370,316</b>	<b>19%</b>
Hà Tây	20,567	899	1,402	2,301	11%	9,546	234	487	720	8%	5,841	69	0	69	1%	5,180	597	915	1,512	29%
<b>Hung Yên</b>																				
Bắc Ninh	774	41	0	41	5%	504	24	0	24	5%	270	17	0	17	6%	0	0	0	0	
Hải Dương	11,936	0	64	64	1%	1,577	0	0	0	0%	7,046	0	0	0	0%	3,313	0	64	64	2%
Nam Định	8,321	4,104	36	4,141	50%	3,100	1,450	0	1,450	47%	5,221	2,654	36	2,691	52%	0	0	0	0	
Hải Phòng	26,772	3,215	941	4,156	16%	10,359	0	161	161	2%	16,413	3,215	780	3,995	24%	0	0	0	0	
Thái Bình	25,574	18,601	0	18,601	73%	6,054	3,795	0	3,795	63%	19,520	14,806	0	14,806	76%	0	0	0	0	
Hà Nam	9,634	747	0	747	8%	0	0	0	0		9,518	747	0	747	8%	116	0	0	0	0%
Ninh Bình	30,771	3,733	0	3,733	12%	16,419	119	0	119	1%	12,067	1,795	0	1,795	15%	2,285	1,819	0	1,819	80%
Hà Nội	5,595	191	0	191	3%	1,483	15	0	15	1%	4,112	176	0	176	4%	0	0	0	0	
<b>Red River Basin</b>	<b>139,943</b>	<b>31,531</b>	<b>2,443</b>	<b>33,974</b>	<b>24%</b>	<b>49,042</b>	<b>5,637</b>	<b>648</b>	<b>6,285</b>	<b>13%</b>	<b>80,008</b>	<b>23,479</b>	<b>816</b>	<b>24,295</b>	<b>30%</b>	<b>10,894</b>	<b>2,415</b>	<b>979</b>	<b>3,394</b>	<b>31%</b>
TTHuế	282,706	0	0	0	0%	56,792	0	0	0	0%	128,889	0	0	0	0%	97,025	0	0	0	0%
Hà Tĩnh	371,010	8,736	20,429	29,165	8%	80,679	0	597	597	1%	206,342	5,046	15,162	20,208	10%	83,989	3,690	4,670	8,360	10%
Nghệ An	1,178,182	107,033	148,362	255,395	22%	222,454	5,792	11,922	17,714	8%	556,582	54,714	76,451	131,165	24%	399,147	46,527	59,989	106,516	27%
Quảng Trị	345,138	44,970	48,542	93,512	27%	40,796	1,294	1,911	3,205	8%	186,796	32,720	18,889	51,609	28%	117,546	10,956	27,742	38,698	33%
Thanh Hoá	701,325	77,439	51,232	128,671	18%	90,713	3,572	2,277	5,849	6%	276,573	26,241	17,266	43,507	16%	334,040	47,627	31,689	79,315	24%
Q. Bình	641,731	0	0	0	0%	147,424	0	0	0	0%	218,880	0	0	0	0%	275,427	0	0	0	0%
<b>North Central</b>	<b>3,520,092</b>	<b>238,178</b>	<b>268,565</b>	<b>506,743</b>	<b>14%</b>	<b>638,857</b>	<b>10,658</b>	<b>16,707</b>	<b>27,365</b>	<b>4%</b>	<b>1,574,062</b>	<b>118,721</b>	<b>127,767</b>	<b>246,488</b>	<b>16%</b>	<b>1,307,173</b>	<b>108,799</b>	<b>124,090</b>	<b>232,890</b>	<b>18%</b>

Table A11-2. BARE LAND (IA+IB) IN FOREST LAND

Unit: Ha

Regional/ province	Forest area					SPECIAL-USE FOREST					PROTECTION FOREST					PRODUCTION FOREST				
	Total Forest	IA	IB	IA+IB	IA+IB (%)	Total Forest	IA	IB	IA+IB	IA+IB (%)	Total Forest	IA	IB	IA+IB	IA+IB (%)	Total Forest	IA	IB	IA+IB	IA+IB (%)
Bình Định	379,716	26,027	49,178	75,206	20%	0	0	0	0		199,998	14,172	23,659	37,831	19%	179,718	11,855	25,520	37,375	21%
B. Thuận	401,509	10,590	25,318	35,908	9%	36,900	332	1,925	2,257	6%	224,774	5,500	14,974	20,475	9%	139,835	4,758	8,418	13,176	9%
Đà Nẵng	60,989	3	514	517	1%	21,435	0	288	288	1%	15,877	0	185	185	1%	23,677	3	41	44	0%
K. Hoà	319,118	14,816	59,869	74,686	23%	17,609	505	1,208	1,713	10%	205,391	9,811	36,187	45,998	22%	96,118	4,500	22,475	26,974	28%
Q. Ngãi	303,107	7,180	43,128	50,308	17%	8,528	63	1,686	1,749	21%	180,984	4,229	25,961	30,190	17%	113,595	2,888	15,481	18,369	16%
N. Thuận	239,353	9,705	25,731	35,436	15%	42,327	3,356	1,409	4,765	11%	176,704	6,215	23,933	30,148	17%	20,322	134	389	522	3%
Phú Yên	262,865	25,459	37,734	63,194	24%	21,222	236	4,472	4,708	22%	126,331	11,924	18,245	30,169	24%	115,312	13,300	15,017	28,317	25%
Q. Nam	788,913	12,138	166,096	178,234	23%	112,714	25	9,253	9,278	8%	565,264	9,847	124,503	134,351	24%	110,935	2,266	32,340	34,606	31%
<b>South Central</b>	<b>2,755,569</b>	<b>105,919</b>	<b>407,569</b>	<b>513,487</b>	<b>19%</b>	<b>260,734</b>	<b>4,517</b>	<b>20,242</b>	<b>24,758</b>	<b>9%</b>	<b>1,695,324</b>	<b>61,699</b>	<b>267,647</b>	<b>329,346</b>	<b>19%</b>	<b>799,511</b>	<b>39,703</b>	<b>119,680</b>	<b>159,383</b>	<b>20%</b>
Đắk Nông	413,100	5,730	19,659	25,390	6%	32,630	30	284	314	1%	76,267	1,663	1,851	3,515	5%	304,203	4,037	17,524	21,561	7%
Lâm Đồng	649,368	9,114	15,493	24,607	4%	91,770	1,637	4,376	6,013	7%	211,075	2,858	5,418	8,276	4%	346,524	4,620	5,699	10,318	3%
Đắk Lắk	616,410	3,992	5,993	9,984	2%	233,582	201	1,515	1,716	1%	136,516	1,014	1,602	2,617	2%	246,312	2,777	2,875	5,651	2%
Kon Tum	793,976	21,546	51,746	73,292	9%	99,092	2,607	460	3,067	3%	245,797	4,132	15,196	19,328	8%	449,087	14,807	36,090	50,897	11%
Gia Lai	1,069,104	102,953	161,178	264,132	25%	57,603	1,405	1,574	2,979	5%	280,806	25,639	55,734	81,373	29%	730,695	75,909	103,871	179,780	25%
<b>Central Highlands</b>	<b>3,541,957</b>	<b>143,335</b>	<b>254,069</b>	<b>397,404</b>	<b>11%</b>	<b>514,677</b>	<b>5,880</b>	<b>8,209</b>	<b>14,089</b>	<b>3%</b>	<b>950,460</b>	<b>35,306</b>	<b>79,801</b>	<b>115,107</b>	<b>12%</b>	<b>2,076,820</b>	<b>102,148</b>	<b>166,059</b>	<b>268,207</b>	<b>13%</b>
BR-VT	37,802	384	1,499	1,883	5%	17,287	261	931	1,192	7%	14,056	123	569	692	5%	6,459	0	0	0	0%
TP.HCM	36,183	777	392	1,169	3%	30	0	0	0	0%	33,860	777	392	1,169	3%	2,293	0	0	0	0%
B. Phước	341,006	312	264	576	0%	32,556	312	264	576	2%	161,036	0	0	0	0%	147,414	0	0	0	0%
B. Dương	18,767	319	502	821	4%	0	0	0	0		4,024	0	493	493	12%	14,743	319	9	327	2%
Đồng Nai	194,971	5,355	10,478	15,833	8%	93,480	612	5,190	5,802	6%	54,087	2,623	4,843	7,466	14%	47,404	2,121	445	2,565	5%
Tây Ninh	70,499	3,019	1,854	4,873	7%	32,200	1,837	664	2,501	8%	35,516	1,182	1,190	2,372	7%	2,783	0	0	0	0%
<b>Southeast</b>	<b>699,228</b>	<b>10,166</b>	<b>14,989</b>	<b>25,154</b>	<b>4%</b>	<b>175,553</b>	<b>3,022</b>	<b>7,048</b>	<b>10,070</b>	<b>6%</b>	<b>302,579</b>	<b>4,704</b>	<b>7,487</b>	<b>12,192</b>	<b>4%</b>	<b>221,096</b>	<b>2,439</b>	<b>454</b>	<b>2,893</b>	<b>1%</b>
Bạc Liêu	8,051	27	0	27	0%	792	0	0	0	0%	6,368	27	0	27	0%	892	0	0	0	0%
Cà Mau	145,639	0	40	40	0%	19,138	0	40	40	0%	14,072	0	0	0	0%	112,430	0	0	0	0%
An Giang	21,060	4,529	915	5,444	26%	1,586	353	8	361	23%	14,791	2,208	907	3,115	21%	4,683	1,968	0	1,968	42%
Đồng Tháp	16,515	4,496	0	4,496	27%	7,653	3,938	0	3,938	51%	2,742	43	0	43	2%	6,120	516	0	516	8%
Long An	67,493	866	0	866	1%	2,000	0	0	0	0%	1,608	0	0	0	0%	63,886	866	0	866	1%
Hậu Giang	5,072	529	0	529	10%	2,805	355	0	355	13%	0	0	0	0		2,267	173	0	173	8%
Bến Tre	14,192	1,231	0	1,231	9%	2,647	339	0	339	13%	4,100	717	0	717	17%	7,445	175	0	175	2%
<b>Vinh Long</b>																				
Sóc Trăng	10,253	36	0	36	0%	261	36	0	36	14%	5,531	0	0	0	0%	4,461	0	0	0	0%
Tiền Giang	11,686	0	0	0	0%	101	0	0	0	0%	1,691	0	0	0	0%	9,894	0	0	0	0%
Cần Thơ	229	0	0	0	0%	0	0	0	0		0	0	0	0		229	0	0	0	0%
Trà Vinh	12,365	0	0	0	0%	0	0	0	0		12,365	0	0	0	0%	0	0	0	0	
Kiên Giang	111,817	4,602	7,433	12,034	11%	42,294	2,837	1,471	4,308	10%	30,188	218	1,877	2,095	7%	39,335	1,546	4,085	5,631	14%
<b>Mekong Delta</b>	<b>424,373</b>	<b>16,316</b>	<b>8,388</b>	<b>24,704</b>	<b>6%</b>	<b>79,275</b>	<b>7,858</b>	<b>1,519</b>	<b>9,377</b>	<b>12%</b>	<b>93,456</b>	<b>3,213</b>	<b>2,784</b>	<b>5,998</b>	<b>6%</b>	<b>251,642</b>	<b>5,244</b>	<b>4,085</b>	<b>9,329</b>	<b>4%</b>

*Appendix-12*  
*Pictures of the Study*

## Appendix-12 Pictures of the Study



Steering Committee Meeting at MARD  
(Nov. 17, 2006)



Training Workshop at VFU  
(Dec. 7-8, 2006)



Field Survey for Site Selection in Dung Phong  
Commune (Dec. 20, 2006)



Meeting with Cao Phong District for Site Selection  
(Dec. 22, 2006)



Boundary Survey in Xuan Phong Commune (1)  
(Dec. 26, 2006)



Boundary Survey in Xuan Phong Commune (2)  
(Jan. 16, 2007)



Boundary Survey in Bac Phong Commune  
(Jan. 20, 2007)



Vegetation Survey in Xuan Phong Commune  
(Jan. 22, 2007)



Biomass Sampling in Xuan Phong Commune  
(Jan. 24, 2007)



Workshop for Counterpart (Sharing Experiences)  
(Jan. 31, 2007)



Survey on Land Holders in Cao Phong District  
(May 25, 2007)



Socio-economic Survey in Xuan Phong Commune (1)  
(June 7-8 and 11, 2007)



Socio-economic Survey in Xuan Phong Commune (2)  
(June 7-8 and 11, 2007)



Socio-economic Survey in Bac Phong Commune (1)  
(June 12-14, 2007)



Socio-economic Survey in Bac Phong Commune (2)  
(June 12-14, 2007)



PRA to demonstrate Land Eligibility  
(Sep. 6-7, 2007)



Survey on Grand Truth Data for Satellite Image  
Analysis (Sep. 24-26 and 27, 2007)



Village Meeting in Xuan Phong Commune  
(Oct. 23-24, 2007)



Village Meeting in Bac Phong Commune (1)  
(Oct. 25, 2007)



Village Meeting in Bac Phong Commune (2)  
(Oct. 26, 2007)



Workshop for Counterparts (Sharing Experiences)  
(Nov. 9, 2007)



Seminar for Potential Developers, Investors and  
NSC Members in Hanoi (Nov. 19, 2007)



Seminar for Potential Developers and Investors  
in HCMC (Nov. 21, 2007)



Seminar for Potential Developers and Investors  
in Hue (Nov. 23, 2007)



Seminar for Donor and NGOs  
(Feb. 21, 2008)



Press Conference with Honda Vietnam (1)  
(Feb. 21, 2008)



Press Conference with Honda Vietnam (2)  
(Feb. 21, 2008)



Steering Committee Meeting at MARD  
(Feb. 22, 2008)