### c. B. Lak 35 Agricultural Supporting Center

Acreage of lot: 22,500 m<sup>2</sup>

Office Building -

Structure : The office have a reinforced concrete

frame, brick and mortar paint finished

walls, and a tile roof.

Building area : 358.00 m<sup>2</sup>

Openings : Glass windows

Floor : Have a concrete mortar finish; the

floors for the director's office and

Staff rooms have a tile finish.

Lavatories : Tile (non-glassy surface) finish, type

of toilet bowl is based on local and

American standards.

Air conditioning: 12 ceiling fans, two air conditioners.

### Exhibition Room

The demonstration room will be used to display the farm machinery, structure: Simple frame, slate roof, building area  $100~\text{m}^2~(10.0~\text{x}~10.0~\text{m})$  and reinforced concrete floors.

Multipurpose facilities - A for all weather conditions and B for the facilities

A : Slate roof

: Concrete floor

:  $1.080.00 \text{ m}^2 (20.00 \text{ x} 54.00 \text{ m})$ 

B : Concrete floor  $400.00 \text{ m}^2 (20.00 \text{ x } 20.00)$ 

m)

### Granary

Paddy storage capacity: 400 t

Building: 3 one storey buildings made of wood, of which one

will be equipped with a demonstration area a floor area of  $304.00 \text{ m}^2 (6.50 \times 16.00 \times 2+10.00 \times 10.00)$ 

### Garage

This garage will be used to house the provided vehicles.

Structure: simple frame structure, slate roof and

reinforced concrete floors

Floor area:  $288 \text{ m}^2 (24.00 \text{ m} \times 12 \text{ m})$ , one building

### Generator House

This is built to protect the generator from sun and rain. The structural design is enable the heat generated inside to be naturally discharged outside.

Generator capacity : Have to provide the necessary

electric generation capacity to be used in the center. 25 KVA, 2

generators (1 spare) 220V

Generator house area :  $50 \text{ m}^2 (10.00 \text{ m} \times 5.00 \text{ m}), 1$ 

Auxiliary facilities: Switchboard for commercial

electric source

Fuel tank : A day's storage capacity;

Stand for external fuel tank with

seven days supply.

### Fry Breeding Facilities

Fry breeding tank : reinforced concrete water tank

with a capacity of  $4.00 \text{ m}^3$  (2.00 x 2.00 x 0.80); breeding tank -  $0.90 \text{ m}^3 \text{ x}$  8 tanks =  $7.2 \text{ m}^3$ ; the tank will be roofed with slate and the floor area will be 262.50

 $m^2$ 

Parent fish breeding

pond : 4 excavated ponds all measuring

 $8.50 \times 18.50 \times 0.5 \times 4 = 314.50 \text{ m}^3$ 

: Plumbing work

Janitor house : made of reinforced concrete

brick, one storey with slate,

concrete

flooring; a floor area of 20.00

 $m^2(4.00 \times 5.00 m)$ 

Water supply

facilities : tube wells with a total pumping

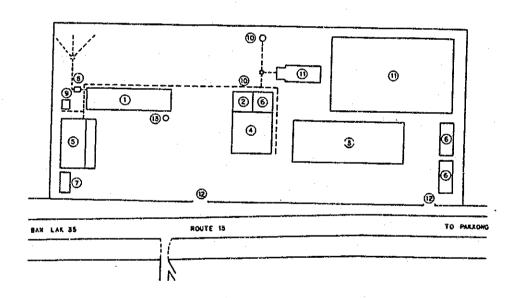
rate of 40.00 m; submersible motor pump capable of pumping 30

1/minute

Water supply tank, distribution

pipe

The layout of facilities is shown below.

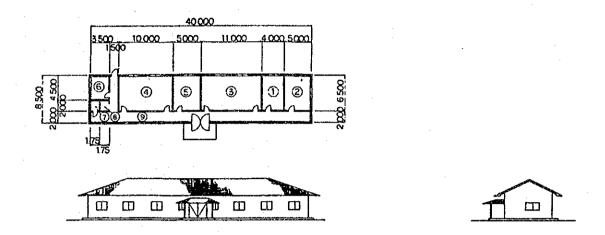


### - Legend -

- 1. Office Building 2. Exhibition Room 3. Multipurpose: A
- 4. Multipurpose: B 5. Garage
- 6. Granary
- 7. Generator House 8. Septic Tank
- 9. Janitor House
- 10. Water Supply Facilities 11. Fry breeding facilities
- 12. Entrance 13.
  - 13. Flag pole

Fig. 4-5 Construction Plan

The office room construction plan is illustrated below.



### - Legend -

	•		
1. Director	$26.00  m^2$	2. Staff Room	32.50 m <sup>2</sup>
3. Office	$71.50 \text{ m}^2$	4. Training Room	$65.00 \text{ m}^2$
5. Conference Room	$32.50 \text{ m}^2$	6. Toilet	$15.75 \text{ m}^2$
7. Storage	$3.50  \text{m}^2$	8. Janitor Room	$3.50 \text{ m}^2$
	9. Corri	dor/Entrance area	$107.75 \text{ m}^2$
		Total	358.00 m <sup>2</sup>

Fig. 4-6 Office building plan

The surface plan of facilities is shown in the annexed drawing.

### 4.3.3 Equipment Plan

### (1) Policy and reasons for selection

The equipment to be needed for O/M works and Agricultural Support Center. The equipment plan is shown below. The equipment to be provided for O/M works project will be of a smaller scale since they shall only be utilized for the repair and maintenance work of irrigation facilities and rural roads.

The equipment to be provided to essential activities.

# O/M equipment for construction

Name of equipment	Specifica- tions	Policies and reasons for selection	
Back Hoe	0.3 m <sup>3</sup>	Rural roads are unpaved. Road maintenance work consists mainly of road surface repairs, hence the roads are difficult to pass or totally impassable by car. The back hoe does not only allow the excavation of the laterite to be used for road surface repair, bu also allows the loading of material in dump trucks, and is therefore indispensable to road maintenance work. Currently, the Agricultural Department in charge of rural road maintenance does not possess any back hoes. A back hoe with a capacity of 0.3 m <sup>3</sup> has been selected since the equipment is mainly used for rural road maintenance.	
Back Hoe	0.03 m <sup>3</sup>	The irrigation canals are earth canals. This small back hoe is not only used for canal repair but also to remove soil deposits. The back hoe can also be used to load dump trucks.	
Dump truck	4 t	For the transportation of materials for rural road repair works, the transportation of soil deposits for irrigation canals, and the transportation of road repair equipment.	
Bulldozer	3 t	Small size bulldozer for compacting excavated and piled soil, and for forming a passage at this area.	
Wheel loader shovel	0.4 m <sup>3</sup>	For loading the laterite necessary to repair rural roads and irrigation facilities in dump trucks; also for the repair of the rural roads linked to irrigation canals.	
Motor grader	2.2 m blade width	For pavement formation, and should be most suitable to rural and maintenance roads structure.	
Vibrating roller	0.5 t	Mainly for compacting dirt during the repair of rural roads linked to irrigation canals and access roads. A small vibrating roller is appropriate since it is used on rural roads.	
Pickup Truck	2,000 cc 4WD	For daily inspection of facilities to constructed. Also to be used in cases of emergencies at the dam or with the weir facilities. A 4WD type is selected for mobility on rough roads.	
Motorcycle	75 cc	Mainly for inspection and patrols inside the facilities to be built and for communication. A small type has been selected for mobility.	
Mobile workshop	4 t 4WD	For emergency repair of the above mentioned equipment at the site or at the base. For transporting equipment to the Savannakhet city workshop, 35 km away.	

Facilities Contingent to the Agricultural Supporting Center

Name of equipment	Specifica- tions	Policies and reasons for selection			
Pickup truck	2.000 cc 4WD	For further education in agricultural methods, irrigation and fis breeding techniques. Also be used for demonstrations of mechanize agriculture and communication. A 4WD truck has been selected to cope with poor roads.			
Motorcycle	75 cc	For communication and further education in agricultural methods, irrigation and fish breeding techniques.			
Generator	220 V 25 KVA (2 units)	Needed to cover the electric requirements of the center. No electricity is actually available in the area and generators are used until electrification is completed, after which the generators are used in case of emergency. The generator capacity covers the electric requirements for the well pumps, lightings and office equipment.			
Tractor	50 HP	To be displayed in the center for the extension of mechanized agriculture. A 50 HP tractor has been selected according to the soil conditions of the site.			
Hand tractor	8 HP	To be displayed in the center for the extension of mechanized agriculture and to be used for training. The hand tractor's specification is similar to those of equipment currently used in the irrigation areas.			

(2) List of Main Equipment Procured

Equipment for the O/M of Constructed Facilities

No.	Equipment	Spec.	Qty	Remarks
1	Wheel loader shovel	0.4 m <sup>3</sup>	1	with spare parts
2	Back hoe	$0.3 \text{ m}^3$	1	TF .
3	Back hoe	$0.03  \text{m}^3$	1	11
4	Bulldozer	3 t	1	<b>10</b>
5	Dump truck	4 t	2	TE .
6	Motor grader	2.2 m wi	ide	
		blade		
		5 t	1	**
7	Vibrating roller	0.5 t	1	15
8	Mobile workshop	4 t 4WD	1	with a crane,
	•			compressor, welding
			÷	tools and spare
	•			parts
9	Pickup truck	2,000 cd	1	with spare parts
·		4 WD		
ا ٥٠	Motorcycle	75 cc	2	with tools
11	Potable pump	ф40 mm	1	

# Agricultural Support Center's Equipment

No.	Equipment	Spec. Q	ty	Remarks
1	Pick-up truck	2,000 cc 4 WD	1	with spare parts
2	Motorcycle	75 cc	2	with tools
3	Generator	25 KVA	2	included in construction expenses
4	Tractor	50 HP	1	for exhibition
5	Hand tractor	8 нр	3	for exhibition and training
6	Others, for display and training		1	

Other facilities include fry production facilities, facilities for hydro-meteorological observations, facilities for the extension of and guidance in cultivation techniques, and facilities that will aid in enlightening and attracting public attention.

### 4.3.4 Basic Design Drawing

All facilities are shown in the annexed drawing.

### 4.4 Implementation Plan

### 4.4.1 Construction Condition

### 1) General Conditions

The project site is located in a totally rural area 500 km south-east of the capital, Vientiane, on national road No. 13, which crosses Laos from north to south. National road No. 13 is not well kept and is in very bad condition. It takes at least 24 hours to transport cargo from Vientiane to the site. The site is about 40 to 50 km from the city of Savannakhet.

### a) River Transportation

The ports along the Mekong river are at Vientiane, Takeiku, Kenkabao, and Savannakhet. These ports face northeastern Thailand. With Soviet aid, Kenkabao port was opened in 1985, paving the way for large freight handling services.

Since the project site is located 60 to 70 km from Kenkabao port, the transportation of voluminous large equipment for the project will be possible. However, freight services are often interrupted or stopped for a long time from November to May when the water level of the Mekong river decreases.

### b) Electricity and Communication

Only the cities located along national road route No. 9 (Savannakhet - Donghen) and champhone district capital of Kengkok were electrified. The transmission lines is under construction from Savannakhet - B. Lak 35 - Pak Xong.

c) It can be said that the port of Savannakhet is within the Thai economic zone. Since Thai money can be used, large quantities of daily necessities and construction materials can be imported from Thailand.

Many shops can be found in B.Lak 35, the proposed site for the Agricultural Supporting Center, at the crossing of roads No. 13 and No. 9, and the daily materials needed by local people can be easily purchased. Although ordinary construction materials can be purchased from these shops, the acquisition of special, large and voluminous orders may take quite a while.

- d) The land system of the area covers rights for the use of paddy fields but none for the use of forest areas.
- e) There are no general anti-pollution laws. Military authorization is necessary for the use of gunpowder.
- f) More than 90% of the population in the region are farmers practicing single-cropping only during the rainy season. In The dry season, farmers are jobless and consequently form a potential labor force for the project.

Training is necessary since the population is almost inexperienced in construction work. However, the people of the region are gentle in temperament, disciplined, and cheerful. Skilled workers are extremely highly paid, more than 2 - 4 times the ordinary worker's wage.

- 2) Precautions during the Execution of Construction Work
- a) Material and Equipment

The main construction materials such as sand, gravel, and bricks, are produced locally. Ready-mix concrete is not available locally.

The main construction machinery, vehicles, cement and steel products will be imported. Although only a few vehicles and machinery are available locally, rental is possible. However, the available facilities might not be according to specification. The vehicles and machinery are generally not well maintained due to the lack of a fully equipped workshop.

Consequently, highly reliable and durable equipment and materials shall be selected. The procurement of non-faulty equipment will be also considered.

It will also be necessary to guarantee the supply of spare parts and to provide a workshop at the site for small repairs.

These matters shall be fully considered.

### b) Construction

Construction companies in the Lao P.D.R. are small in scale, and regardless of experience in large-scale projects, are

technologically inferior and have very few technicians who can speak English. The Japanese construction company which will have concluded the contract for the construction works shall take into consideration the above mentioned items when selecting the counterpart local construction company. The Japanese construction company shall take necessary measures when dispatching its personnel to the site and take into due consideration the design, cost, and work schedule.

### c) Work Schedule

Construction on rivers and paddy fields is impossible during the rainy season. Therefore, the construction of the dam, weir, irrigation and drainage canals shall be conducted during the dry season.

### d) Precautions

Precautions during construction work

- <1> A generator shall be installed for the construction work and for the site office
- <2> Availability of drinking water (development of water resources and installation of facilities for filtration and sterilization)
- <3> To examine the results of studies on hydro-meteorology and soil, and formulate the necessary measures
- <4> An early decision is needed regarding the preparation plan for materials and equipment
- <5> The rainy season's effect on river and paddy construction works should not be underestimated
- <6> Appropriate planning of the execution period for each type of work is needed along with adequate work execution
- <7> Site personnel must be organized effectively (good communication with the technical personnel at the site, and professional training)
- <8> Establish the transportation route (via Vietnam, or to Thailand via the Mekong River) and period

Precautions to be taken in the project's design

- <1> Design and cost calculations shall take into consideration
   items <1> to <8> above.
- <2> In terms of design, structures should be simple and durable, the system should be easy to understand, and operation and repair should be easy and economy. (The design should take in similar model types)

### 4.4.2 Implementation Method

After the signing of the Exchange of Notes (E/N) by the Government of the Lao P.D.R. and the Government of Japan, the Government of the Lao P.D.R. conclude a contract related to the detail design and supervision of construction work with a Japanese Consultant Company regarding the plan of execution. After the establishment of the execution plan, bidding will take place in the presence of a representative of the Government of the Lao P.D.R. A construction company or a contractor will be selected and the supply of construction material for the facilities will be carried out.

The Consultant will make an on-site study, and establish an execution plan by taking into consideration the local characteristics and particulars of the work to be executed.

The Contractor, according to the conditions of the contract, will overcome local difficulties related to the construction work and complete the work in due time.

Points of caution during the execution

- <1> Avoid construction works in rivers and paddy fields; divide the construction term into two stages.
- <2> Participating Laotian companies have inferior technologies, therefore, scheduled completion of work cannot be expected.
- <3> The same applies <2> for large size construction equipment.
- <4> English is hardly understood by anyone.

Consequently, it is very careful for the selection of an appropriate local collaborating company in order to ensure that

instructions on working methods are fully understood during the progress of work.

In addition, given the large variety of materials to be procured for the construction of the dam, weir, irrigation, and drainage canals, wells, buildings, roads, and bridges as well as those for maintenance, it will be necessary to dispatch or nominate engineers in these respective fields.

Engineers in the following technical fields are needed:

Dam and weir construction Canal construction Architectural design Electrical installation Road and bridge construction Agricultural facilities construction

The Laotian organization chart for the execution of the project is as follows.

Executing agency:

Ministry of Agriculture and Forestry Local executing agency: Savannakhet Department of Agriculture and Forestry, the construction office for the Integrated Agricultural Rural Development Project in Savannakhet Province

#### 4.4.3 Construction and Supervisory Plan

The scale of work during the first stage of the project will be extended to approximately 20 km, and to about 30km in the second stage. Many types of work will be executed at various places in Champhone and Khantabouly. Each stage will be regularly supervised by one person having a fair understanding of the Japanese grant aid system, in consideration of the particular features of this integrated agricultural development project, including irrigation facilities such as dams and weirs, the construction of the Agricultural Supporting Center (including the fry production facilities) and rural roads, and the procurement of maintenance material. Necessary assistants will be locally employed and a supervision system for construction work will be established.

Due to the variety in types of work, engineers will be dispatched

according to the work schedule. The overall work process is shown in Section 4.4.5

### 4.4.4 Procurement Plan

### (1) Supply Principles

In principle, the project construction materials shall be purchased in Laos.

The country to supply the materials and equipment for this project will be decided after future operation and maintenance aspects are considered.

### <1> Laos

Priority will be given to products sold in local shops (including representative offices) or factories (knockdown).

### <2> Japan or other countries

In cases when materials are not supplied from Laos, the country offering the lowest price for the materials and equipment (including transport fees) will be chosen. However, this matter will be decided after consideration of future repair needs, ease of spare parts supply, financial capacity, and compatibility with existing equipment.

<3> In case the Government of the Lao P.D.R. specially requests it, some items may be supplied from Japan or other countries, if the request is deemed reasonable.

In consideration of future repair and service needs, equipment and materials should be procured locally where possible. The countries from which the equipment will be procured are as follows:

Equipment	Spec.	Country
Wheel loader shovel	0.4 m <sup>3</sup>	Japan
Back hoe	0.3 m <sup>3</sup>	<b>11</b> · ·
Back hoe	0.03 m <sup>3</sup>	0 .
Bulldozer	3 t	. 11
Dump truck	4 t	11
Motor grader	2.2m Bread with	N .
Vibrating roller	0.5 t	Ħ
Mobile workshop	4 t 4 WD	11 .
Pickup truck	2,000 cc 4 WD	11
Motorcycle	75 cc	Laos
Generator	25 KVA	Thailand
Tractor	50 SP	Thailand
Hand tractor	8 SP	Thailand

### (2) Transportation route

- 1) In case of transportation via Vietnam (Danang):
  - Customs clearance takes a long time and the time cannot be accurately estimated.
  - Transportation expenses are cheaper than when shipment is made via Thailand.
- 2) In case of transportation via Thailand (Bangkok):
  - Custom clearance is quicker than in Vietnam and readily can be estimated.
  - Transportation expenses are more expensive than when shipment is made via Vietnam.
- 1) The route from Japan

Japan - Harbor of Bangkok, Thailand, thence to Northeast Mukudahang, Thailand - via Mekong River to Savannakhet, Laos -Project site

### 2) The route from Thailand

Thailand - Mukudahang - Mekong River - Savannakhet, Laos -

project site

### 4.4.5 Implementation Schedule

The project work will begin after the contract for construction work is signed and verified by the Government of Japan. The work period will be clearly divided between the dry and rainy season. 80% of the yearly rainfall is concentrated during the rainy season (from May to October), but since it only lasts for a short time, construction, according to kind, will be possible even in the rainy season.

However, excavation and banking works for the construction of the main facilities should not be carried out in this season, since they must be mainly carried out in the river or paddies.

Preliminary preparation works should be given considerable time as they cover preparation for the construction of roads for the dam, temporary drainage works for the concrete mixer plant, supply of riprap (use of dynamite) and material for weir construction (about twice the design amount), the banking test, and the supply of construction equipment for the dam. Since the dam is to be built in the river, construction must commence and end within the same period and in the dry season.

The construction of the dam and irrigation canals, both in the river and paddy fields, respectively, must be completed during one dry season.

Therefore, the project should be carried out in two stages to accommodate and control these voluminous and various construction works.

The division of work, as shown below, has been judged to be appropriate. The Government of Laos should be given a period of about 10 months to complete felling activities required prior to the commencement of the dam construction work. In consideration of the required time to carry out the said activities, dam construction should indeed be carried out in two phases.

### First stage

- Construction of irrigation facilities in Namphou area
- Construction of Agricultural Supporting Center

### Second stage

- Construction works of irrigation facilities in H. Bak
- Construction of roads (including bridges)
- Construction of rural water supply facilities (including wells)
- Procurement of materials and equipment 1 set

The implementation schedule is shown on the next page.

The execution of this project under the Japanese grant aid system would require the government of Laos to shoulder the cost detailed below.

1. Expenses to be shouldered by Laos

282,740,000 kips (refer to appended data for details)

(1) Relocation expenses

1,684,000 kips

(2) Land use expenses for dam and irrigation canal construction

57,635,000 kips

(3) Deforestation and felling expenses for the dam and reservoir

190,164,000 kips

(4) Land use expenses for the construction of the center

203,000 kips

(5) Expenses for the enclosure of the center

33,063,000 kips

Total

282,749,000 kips

- 2. Terms of calculation
- (1) Date of calculation June 1993
- (2) Exchange rate

US\$ 1 = 116.38 yen

US\$ 1 = 718.78 kips

1 Kip = 0.1618 yen

1 Bart = 4.63 yen

(3) Work period

Work will be divided in two stages. Detailed design and the work for each stage are as mentioned in the work schedule.

(4) Other

This project shall be executed in accordance with the Japanese grant aid system.

## IMPLEMENTATION SCHEDULE

Phase	Month	lst	2nd	3rd	4th	5th	6th	7th	8th	9th	10th	11th	12th
	Design				<u> </u>	in J:	İ	rring	serv		al: 4.	5 mor	iths)
hase 1	ıtion				(Ac	ion Vo	{ Road)   Suppo:	i		(Acce  plan	ss Roa	2 mon ad for	
Д	Execu				(Gen	erato	r)	(Cons	truct	ion of	f Main	n Cana ment)	al)
	Design			ield :		y) k in .			ring :	<del> </del>	al: 5.	ance) 5 mor	
Phase 2	Execution	(Acce	ess ro	(Br (Soi	idges l/mate		test	(Con	nstructing)	Plan (Tempo a bric ction ction lnstal equi	of da	amals)	ion)

# CHAPTER 5

### CHAPTER 5 PROJECT EVALUATION AND CONCLUSION

### 5.1 Effects of the project

This project is the Integrated Agricultural Rural Development Project in Savannakhet Province, Laos. It mainly aims at:

- constructing irrigation facilities
- installing rural infrastructures and,
- constructing an Agricultural Supporting Center to achieve the following:
- 1) Construction of irrigation facilities
- <1> Stable and increased paddy production in the rainy season:

Stable food production and supply, Stable and increased income of subsistence farmers, along with improved standard of living

<2> Expansion of the planting acreage in the dry season:

Increase in food production, crop diversification, increase in production of commercial crops, promotion of farmers' marketing activities

- <3> Intensified agriculture and new farm management structure
- <4> A foreign economic policy towards independence and national prosperity through self-sufficiency in food
- 2) Installation of Rural Infrastructure
- <1> Improvement in production and environment:

Stimulation of agricultural production, Promotion of sales and marketing activities and improvement of transportation and traffic conditions, promotion of inter-rural community exchanges and stimulation of economic activities

<2> Improvement in sanitary conditions:

Emancipation of women and children from water collection activities,
Improvement in women's social status and in children's school attendance

- 3) Construction of the Agricultural Supporting Center
- <1> Extension of and training in integrated production and farming techniques:

Stable increase in paddy production by guidance and training in modern farming techniques; Conversion in cropping and crop diversification through the introduction of new varieties

<2> Storage of surplus agricultural produce:

Storage of surplus agricultural produce (Quality control), Support for the sales of surplus agricultural produce (high-priced sales)

<3> Improvement in farm management and farm life:

Support sales and purchase of agricultural output and input, support farmers' economic activities, promote the change in farm management structure, promote women's participation in activities geared to improve farm production and living conditions

<4> Increase additional income of farmers:

Support fish breeding in paddy fields (Sales of fry for breeding)

The construction of the above mentioned facilities and the procurement of the various machinery for the attainment of the objectives will bring development that is expected to affect not only the direct beneficiaries but also the residents

outside of the project area, both directly and indirectly.

The area that is to directly benefit from this project only covers 1.2% of Savannakhet Province. Nevertheless, this project shall have a tremendous effect and as a model, it is expected to give impetus to agricultural development in the entire province.

Through the implementation of this project, a stable supply of water for irrigation the whole year round regardless of season can also be expected along with stable and expanded paddy production, crop diversification and the activation of the farmers' marketing activities in which the Agricultural Supporting Center plays the central figure. The activation of farmers' marketing activities will simultaneously stimulate changes in farm management structure and the entire area's economic system, and undoubtedly contribute to the establishment of the market economy that the state aims for.

The project effects together with the currently prevailing points concerned are summarized in the following table.

# Project Effects

The present situation and problems	Countermeasures in this scheme	Project effects and scale of improvement
(1) Agricultural infrastructure is quite undeveloped	(1) Construction of inrigation facilities	(1) Increase in productivity of farm lands (1,360 ha), achievement of self-sufficiency and planting and sale of cash crops
1) Rainfed cullivation	1) Construction of H. Bak    Upstream and H. Xay    Upstream irrigation    systems  a. H. Bak Upstream Area    (950ha)  - Construction of H. Bak dam  - Construction of tertiary    drainage canal (2.1 km)  b. H. Xay Upstream Area    (410 ha)  - Construction of H. Xay    weir  - Construction of canal    (8 km)	<ul> <li>a. Stable cultivation of 1,360 ha</li> <li>a. Stable cultivation of 950 ha</li> <li>Irrigation water resources development of 1,900 x 10<sup>4</sup> m<sup>3</sup> annually</li> <li>Conveyance and distribution of irrigation water</li> <li>Increase of productivety by improvement of drainage</li> <li>b. Stable cultivation of 410 ha</li> <li>Irrigation water resources development of more than 0.09 m<sup>3</sup>/sec.</li> <li>Conveyance and distribution of irrigation water</li> </ul>

The	present situation and problems	Countermeasures in this scheme	Project effects and scale of improvement
2)	Low productivity	Construction of H. Bak     Upstream and H. Xay     Upstream irrigation     systems     A. H. Bak Upstream Area	2) Increase of paddy yield rainy season: 2.0 → 4.0 t/ha dry season: 0.0 → 4.5 t/ha  a. Increase of production rainy season paddy: 1,900 t dry season paddy: 2,457 t total : 4,357 t peanuts : 1,000 t
		<ul> <li>b. H. Xay Upstream Area</li> <li>Construction of H. Xay weir</li> <li>Construction of canal (8 km)</li> </ul>	b. Increase of production rainy season paddy: 820 t dry season paddy: - peanuts: 125 t
	Land consolidation is quite undeveloped.	3) Laos side will conduct	Water management will be easy after completion
(2)	Rural roads		
	Roads are badly maintained and locally devastated. Passage in the rainy season is difficult even for ox carts.	1) Rehabilitation and construction of main rural roads in the project area  H. Bak 10.4 km H. Xay 19.2 km	1) To sharply reduce the traffic distance in each village through the construction of roads in the 29 villages in and around the project area to accommodate a population of about 18,000.
'	The road surface is undulated and terribly eroded.	2) Pavement of road surface  Laterite 15 cm-pavement Width 6 m	Activate interaction and     marketing activities between the     villagers in the project area.     The social system of the area     will be invigorated.
	Bridges are so terribly deteriorated that even the proof load of some is less than 5 t.	3) Rehabilitation or construction of bridges  H. Bak Construction 1 H. Xay Rehabilitation 8  Load limit 14t	3) Curtailment in the time and cost for the transportation of agricultural input and output; activation of agricultural production and sales activities.  Decrease in transportation costs due to the accessibility of the area by large vehicles.

The	present situation and problems	Counterneasures in this scho	Project effects and scale of improvement
(3)	Rural water supply		
1)	There are no public water supply facilities in most of the villages in the project area.	Construction of ten     domestic water supply     facilities in the project     area	1) Continuous supply of domestic water
2)	River surface water, reservoir ponds or far-off wells are the main sources of domestic water.	<ol><li>The groundwater will be developed as a water source.</li></ol>	2) Improvement of water quality
3)	Water intake and transportation activities are mainly carried out by women	3) The location of the well will be not more than 50 m from the village to facilitate transportation	00 water intake and transportation activities
	and children.	activities.	Effective use of surplus time
		Hand pumps will be installed.	Women: activities geared towards the improvement of living conditions and production.
			Children: Increased school participation and scholastic levels.
4)	The water sources of areas with limited domestic water supply are usually contaminated leading to the spread of contagious diseases and badly infected digestive systems. The medical expenses for these diseases weigh heavily on household budgets.	4) Washing places and waterways will be installed to maintain cleanliness around the well and to prevent water quality contamination.	4) Decrease in water-borne diseases

The present situation and problems	Countermeasures in this scheme	Project effects and scale of improvement
(4) Agricultural systematic and well- organized services are hardly carried out.	(4) Construction of an Agricultural Supporting Center	(4) Extension of farming guidance
Poor training and     extension system for     agricultural     techniques	Diffusion and improvement     of agricultural techniques	Shift from traditional agriculture to modern irrigation practices
cecimityues ;	- Introduction of new crop varieties	- Conversion to high-yielding varieties
	- Guidance in the proper use of fertilizer	- Increase of yield by popularization of the use of fertilizer
	- Guidance in water management for paddy cultivation	- Decrease in the amount of seeds used from 60 to 80 kg/per hectare to 35 to 40 kg/per hectare in the rainy season and 40 to 50 kg per hectare in the dry season. With 1800 kips/ha, a minimum of 2,448,000 to 3,060,000 kips (34,000 to \$42,500) is curtailed.
Rice cultivation for self-consumption results almost zero of cash income	2) Guidance of marketing	2) Increase in production will lead to the free sales of 4657.5 tons of rice. The market sales of other dry season crops, 1125 tons (e.g. peanuts), will be possible.
<ul> <li>Most farmers pay in kind (rice) for the purchase of fertilizer and agricultural input, and are inexperienced in market dealings.</li> </ul>	- Guidance for procurement of inputs and sale of outputs	- Accelerate the reconstruction of the agricultural management system through the promotion of free business activities.

The present situation and problems	Countermeasures in this scheme	Project effects and scale of improvement
3) Each farmhouse stores their supply of rice for subsistence in its unhulled state. The floor of the granary is elevated, but farmers can not construct another granary for increased rice production due to lack of finance.  The produce are usually damaged by rodents.	3) Construction of joint granary	3) Storage of rice and preservation of its quality.  Increase in income by high-priced sales of produce in the fallow season.
Although rainy season paddies are usually harvested after the rainy season, they are stored without being dried due to the absence of drying facilities.  There are no roofed facilities near and within the project area to be used for community assemblies and the like, and interaction among villages is limited. Meetings or gatherings, particularly in the rainy season, are often subject to postponement.	4) Construction of multipurpose building with a roof and concrete square	4) Quality preservation by drying the stored surplus rice under the sun.  It will be used to market agricultural produce and fish under all kinds of weather. The construction of this facility will contribute to the activation of marketing activities.  It will be used to hold any event the year round. Stimulate interaction and information exchange concerning agricultural production and socio-cultural matters; joint activities can be promoted.  Knowledge of modern agricultural techniques will be disseminated by holding exhibitions of agricultural machinery and their uses in this place.  Participation of women in production activities.

The present situation and problems	Countermeasures in this scheme	Project effects and scale of improvement
5) Fry breeding in Phackbou farm was temporarily interrupted due to recession after NEM. Production has started again after the farm was privatized in 1993. However, the distance between the farm and the project area, 40km, prevents farmers from purchasing and transporting fry.	5) Construction of fry breading facilities  Fry production Sales Distribution  to produce 2,092,000 tilapias and chinese carp annually.	5) Increase secondary income through fry production and breeding.  The indirect benefits from this project are: water production: 418,400 kg water production output: 83,680,000 kips (US\$116,222)  Further, the 3rd Five-year plan is expected to bring about a fish consumption of 11 kg/person, which is equivalent to a production that would provide for approximately 380,380 people.
(5) Shortage of O/M activities for existing facilities	(5) Supply of O/M machinery	(5) O/M office will be set up by Laos side, and planned O/M will be conducted.

### 5.2 Conclusion and Recommendations

### 5.2.1 Conclusion

This project is one of the most important state-sponsored development projects to resolve economic problems hampering national development. This project will be implemented in one of the districts in Savannakhet Province and shall provide the area with the facilities and machinery required for the execution of an Integrated Agricultural Development Plan.

(1) Small scale and petty, subsistence farmers and areal residents will economically benefit from the project through the construction of irrigation facilities.

The project effects are summarized below:

National benefit:

Increased and stable food production and self-sufficiency in food;

Promotion of an autonomous economic diplomacy based on self-sufficiency in food; Development and highly advanced utilization of water and land resources;

Diminution of slash-and-burn agricultural practices;

Crop diversification, expanded production of export crops;

Promotion of the NEM system;

Increase in exports, foreign currency holdings, improvement of trade balance; Promotion of irrigation and agricultural development;

Improvement of standard of living, and promotion of safety for the welfare of the people.

Areal benefit

Activated areal and residents' economic activities;

Promotion of regional developments; Development in traffic services for marketing and transportation;

Promotion of inter-rural exchanges;

Extension and expansion of modern farming techniques;

Improvement of women's social status and expansion of environmental improvement activities;

Improvement in fish culture and nutrition; Increased job opportunities

Farmers' benefit:

Stable and increased rainy season paddy production;

Increase in dry season paddy cropping and crop diversification;

Breakaway from subsistence agricultural practices;

Enjoy the availability of an agricultural information network;

Shift to a market economy system; Increased income and stable production; Improvement in standard of living; Stable supply of purified domestic water; Reduction in hard labor (transportation of

water);
Promote women's participation in
agricultural production;

Enlargement of pupil's school attendance; Improvement and activation of traffic and marketing conditions;

Promotion of interchanges among rural communities;

Improvement in living conditions and standard of living;
Increased job opportunities.

The effects above clearly state show that one of the project's main objectives, which is to improve agricultural infrastructures in areas compelled to carry out monocultural practices of unstable rainfed paddy production, will effect improved and stable paddy production and largely contribute to the improvement of economic conditions and the people's welfare. Simultaneously, it is also considered to largely stimulate the shift to a free market economy and the establishment of a new economic system under the NEM concept.

The project will also bring about an increase in the income of the affected farmers, thereby improving their socio-economic conditions and socio-cultural conditions of traditional villages. These improved conditions are foreseen to promote reciprocal relations among communities, joint implementation of regional development, agricultural and market information exchange, as well as joint purchase of required agricultural materials, joint sales of agricultural produce, hence giving birth to a new cooperative system.

Increase in commercial crop production through dry season irrigation and the related various activities of the Agricultural Supporting Center, which will also affect other agricultural areas within the province, are expected to lead to the furtherance of similar development projects.

Given these effects, the implementation of the project under the Japanese grant aid system is judged to be appropriate.

Moreover, the implementation, operation and supervisory aspects of the project to be handled by the Laotian executing agency are forecast to have no problems with respect to personnel disposition and budgetary measures.

For a smoother and more effective implementation and guaranteed attainment of the primary objectives, however, the following must be fully accomplished:

### (2) Irrigation facilities and water management

- 1) The annual distribution pattern and volume of rain in the project area, and even among localities, vary greatly. Accordingly, the effective use of water will be planned and a water use plan by season will be formulated based on the long term surveys carried out by the meteorological observatories for the management of water intake and distribution.
- 2) The meteorological observation facilities constructed through this project must be managed properly. The observation results will be effectively used in daily water management activities which shall be efficiently carried out. The results will be strictly recorded and preserved for reference for the future formulation of water use plans after the 2nd year and agricultural development plans for districts within and outside the project area.

- 3) Dam breakage or damage endanger the lives and properties of downstream residents. The early detection of such damage must be given priority by carrying out daily inspection.
- 4) Facilities and water management should be conducted manually and assuredly. The details should be recorded daily and filed in the O/M office.
- 5) Canal facilities are easily damaged by trespassing water buffaloes. Countermeasures should be taken therefore, and areal farmers should be obligated to strictly carry them out.

### 5.2.2 Recommendations

- (1) Operation and management of the Agricultural Supporting Center
- a) The Agricultural Supporting Center performs various services in order to attain the objectives. However, it will take a long time before farmers in the project area will understand the purpose for its construction, the kind and details of its services, as well as request its support.

The organization of a farmers' association to help make these purposes and services clearly known to the community during the construction of the Center, and a system encouraging the farmers to actively seek the Center's services afterwards are most desired.

b) The proper operation and maintenance of the Center, the attainment of its objectives, and the efficient operation of the main agricultural production facilities will all depend on the capability of the Laotian counterpart in providing the personnel suitable and necessary to its operation and maintenance. Therefore, necessary budgetary measures should be adopted immediately after facilities are completely constructed for the selection of a suitable personnel.

If there are personnel in need of special training, a request should be made for their dispatch to undergo the training

services of either Japan, international agencies, or other countries, to home skills and develop performance.

c) An annual Agricultural Supporting Center operation and management plan should be formulated at the start of each year to guarantee a better and more efficient O/M and the use of facilities. This plan should cover the provision of funds for the Center's services and other budgetary measures.

The formulation of the plan for the first year should be particularly hastened, and for it to be ready for full implementation right after the day the facilities are handed over to the counterpart government, an operation and maintenance system should be developed and the required funds should be provided.

The expenses for the use of the Agricultural Supporting Center's facilities (for fry distribution, etc.) should be shared by the beneficiaries and this should be made explicitly clear to them.

- d) The members of the Japanese group of volunteers (JOCV) dispatched by JICA assist in the Savannakhet Department of Agriculture and Forestry of Savannakhet Province and in other related agencies. The cooperation of members specializing in soil fertilization, crop cultivation, agricultural statistics, fish breeding, and health and sanitation, fields related to the center's services, is essential as it would further invigorate the center's services.
- e) Financial services, such as credit and farm loans, are considered as one of the extremely important services inherent to agricultural growth and development in the project area.

Although a definite financial plan has not been worked out yet, IFAD's 2nd financial plan for the development of villages (1987) and the 3rd five-year plan stipulate that the establishment of an agricultural credit system and the financing of farming businesses are pressing issues.

With regard to this matter, active support can be expected from government agencies, such as the continuous and active

support extended by IFAD and UNDP to agriculturally developed areas in the plains of Vientiane. To fully receive the active support of government related agencies, including those aforementioned, the formulation of a system and a plan should be hastened.

f) The electricity for the operation of the Center's facilities is provided through a diesel engine generator installed within its premises. The upkeep of the generator for electricity and water supply, however, is estimated to be several times more expensive than when supply comes from the commercial electric plant.

Therefore, discussions with government agencies should be made to avoid delays in the scheduled use of the commercial power plant's services (1994).

- g) Fry breeding was planned to help the government attain its aim in the 3rd five-year plan to expand protein intake per person. To make the area's farmers understand the concept, training in and extension of proper fish breeding techniques are a must.
- h) Training of all selected personnel under JICA can not be carried out simultaneously. It is, therefore, necessary to study the fiscal plan of JICA, and in order to receive an early acceptance, discussions with the secretary of the Japanese Embassy in Vientiane should be held to follow necessary procedures to accelerate participation.

# APPENDIX

#### [Content]

#### 1. MEMBER LIST FOR STUDY TEAM

Member List for Basic Design Study Team

Member List for Explanation of Draft Report

#### 2. STUDY SCHEDULE

Study Schedule of Basic Design Study Team
Study schedule for Explanation of Draft Report

3. MEMBER LIST OF CONCERNING PARTY IN THE PERCIPIENT COUNTRY

Member List in Lao Side for Basic Design Study Team

Member List in Lao Side for Explanation of Draft
Report

#### 4. MINUTES OF DISCUSSIONS

Minutes of Discussions of Basic Design Study Team
Minutes of Discussions for Explanation of Draft Report

#### Member List for Basic Design Study Team

#### (1) Basic Design Study Team

Mr. Haruoki Ebe Leader

Deputy Director

Chikugo River Irrigation and

Drainage Project Office,

Ministry of Agriculture, Forestry

and Fishery

Mrs. Kimiko Ishikawa Agricultural development Planner,

Senior Officer, Crop Production Division, Agricultural Production

Bureau,

Ministry of Agriculture, Forestry

and Fishery

Mr. Narihide Nagayo Grant Aid Planner

Agriculture development Specialist, Institute for International Cooperation, JICA

Mr. Sakuzo Kanazawa Irrigation and Drainage Planner

Kokusai Kogyo Co., Ltd.

Mr. Ikuro Inamori Agricultural Facilities Planner

Kokusai Kogyo Co., Ltd.

Mr. Kensuke Sakato Agricultural Economy and

Extension System,

Kokusai Kogyo Co., Ltd.

Mr. Narikazu Fujisawa Expert Accountant

Kokusai Kogyo, Co., Ltd.

#### . Member List for Explanation of Draft Report

Mr. Masaru Sasaki

Deputy Director, Offie Agriculture Water Management, Irrigation and drainage Division, MAFF

Mr. Masahiro Tawa

First Basic Design Study Division, Grant Aid Study and Design Department, JICA

Mr. Sakuzo Kanazawa

Kokusai Kogyo Co., Ltd.

Mr. Kensuke Sakato Kokusai Kogyo Co., Ltd.

# Study Schedule of Basic Design Study Team

No	Date	Mouvement	Activities	Accommoda- tion
1	May 19 (Wed)	Tokyo → Bangkok Bang. → Vientiane	Flight JL 717 Flight QV 423	Vientiane
2	20 (Thur)		Explanation of Inception Report and Study Schedule to the relevant Authorities of Lao. Courtesy Call on the Embassy of Japan & JOCV.	Vientiane
3	21 (Fri)	Vientiane → Savannakhet	Flight QV 300. Explanation of the Inception Report, Study Schedule to the Department of Agriculture and Forestry. Field Reconnaissance on the requested Area.	Savannakhet
4	22 (Sat)		Field Reconnaissance in the design dam sites; Interview of the residents of the zone to be submerged (agreement and understanding of the Project). Survey on the Site selected for the demonstration farm.	Ħ
5	23 (Sun)		Field reconnaissance on existing project sites.	*
6	24 (Mon)		Discussions with the persons in charge of thew Savannakhet Province: Confirmation of the contents & background of the request. Discussion on the executing and management system.	n
7	25 (Tues)	Savannakhet → Vientiane	Flight QV 300; Confirmation of the contents and background of the request. Discussions on the scope of assistance.	
8	26 (Wed)		Discussions on the contents of the request and the scope of assistance.	Ħ
9	27 (Thur)		n	n
10	28 (Fri)		Signing of the Minutes of Discussions. Report to the Embassy of Japan.	n
11	29 (Sat)	Vientiane → Bangkok	Departure of the Officials of the Study Team Flight TG 691. The Consultant gathers documents & data.	Bangkok Savannakhet
12	30 (Sun)	Bangkok → Tokyo Vient. → Savannakhet	Return of Team Officials to Japan, Flight TG640. Moving of the Consultant, Flight QV 308	Bangkok Savannakhet

# Study schedule for Explanation of Draft Report

No 1	31/ Aug.	Tokyo- Bangkok	Air by TG-641	BKK.
No 2	1/ Sep.	Bangkok-Vientiane	Air by Qv-423	Vientiane
No 3	2/ Sep.		Embassy of Japan	tr
			Meeting with JOCV Visit to M.A.F.	
			Explanation of Report	
No 4	3/ Sep.		Discussion	¥
No 5	4/ Sep.		Site Investigation	W
No 6	5/ Sep.		Preparing Report	ч
No 7	6/ Sep.		Visit to Embassy	٧
			of Japan,	
			JOCV Office	n
No 8	7/ Sep.	Vientiane to BKK	Air by TG-691	ВКК
No 9	8/ Sep.	BKK to Tokyo	Air by TG-640	

#### Member List in Lao Side for Basic Design Study Team

#### Names

#### <u>Position</u>

Deputy Chief of

Department, M.A.F.

Irrigation

Mr. Alom Thavonsouk	Deputy Director of Cabinet, M.A.F.
Mr. Kham Ouan Boupha	Vice Minister of M.A.F.
Mr. Khammay Vongsathieve	Irrigation Department, M.A.F.
Mr. Lhangsy Sayvisith	Director of Irrigation Department, M.A.F.
Mr. Oudone Sisongkham	Deputy Chief of the International Cooperation Division
Mr. Soukaseum Boihisane	Vice Governor and Head of A.F. Department of Savannakhet
Mr. Silavauh savatvong	Deputy Director of the Forestry Department, M.A.F.
Mr. Sivath Sonethauy	Deputy Director of Irrigation Department, M.A.F.
Mr. Sonechith	•

#### Embassy of Japan in Lao

Thougphanheuaugay

Mr.	Masao	Wada	Ambassador	Extraordinary	and
		•	Plenipotentia	ary.	

Mr. Kiyoshi Omameuda Second Secretary

# Member List in Lao Side for Explanation of Draft Report

#### Government of Lao P.D.R.

1.	Mr. Alom Thavonsouk	Deputy Director of Cabinet M.A.F.
2.	Kham Ouan Boupha	Vice Minister of M.A.F.
3.	Khammay Vongsathive	Irrigation Dept. of M.A.F.
4.	Lhangsy Sayvisith	Director of Irrigation Dept.
		M.A.F.
5.	Oudone Sisongham	Deputy Chief of International Cooperation.
		Division.
6.	Soukanseum Boihisane	Vice Governor and Head of A.F.
		Dept. of M.A.F.

#### Embassy of Japan

1.	Mr. Masao WADA	Ambassador of Japan to Lao P.D.R
2.	Mr. Saburo SATO	First secretary
3.	Kiyoshi OHMAMEUDA	Second Secretary

#### Minutes of Discussions of Basic Design Study Team

MINUTES OF DISCUSSIONS BASIC DESIGN STUDY

ON THE INTEGRATED AGRICULTURAL RURAL DEVELOPMENT PROJECT IN SAVANNAKHET PROVINCE

IN

LAO PEOPLE'S DEMOCRATIC REPUBLIC

In response to the request of the Government of Lao People's Democratic Republic, the Government of Japan decided to conduct a Basic Design Study on the Integrated Agricultural Rural Development Project in Savannakhet Province (bereinafter referred to as "the Project") and entrusted the study to the Japan International Cooperation Agency (JICA).

JICA sent to Laos a study team, headed by Mr. Haruoki Ebe, Deputy Director of Chikugogawa-karyuu Irrigation and Drainage Project Office, Ministry of Agriculture, Forestry and Fisheries from May 19 to June 12, 1993.

The team held discussions with the officials concerned of the Government of Lao and conducted a field survey at the study area.

In the course of discussions and field survey, both parties have confirmed the main items on the attached sheets. The team will proceed to further works and prepare the Basic Design Study Report.

Mr. Haruoki Ebe

Leader

Basic Design Study Team

Haruoki Ebe

JICA

\_\_\_\_

Vientiane, May 28, 1993

Mr. Alom Thavonsouk

Deputy Director of Cabinet

Ministry of Agriculture & Forestry

LAO P. D. R.

Mr. Soukaseum Bodhisane

Vice-Governor

Head of Agriculture and

Forestry Department

Savannakhet Province, LAO P.D.R.

#### ATTACHMENT

#### 1. The Objectives of the Project

The objectives of the Project are to increase and stabilize the rice production and to upgrade the living standard of farmers in the project area by improving agricultural structure.

#### 2. The Project Site

The Project site is located in Savannakhet Province. (see Annex I)

#### 3. Executing Agency

The Ministry of Agriculture and Forestry and Savannakhet Province are responsible for the administration and execution of the project.

#### 4. Items requested by the Government of Lao

After discussions with the Basic Design Study Team, the following items were finally requested by Lao side.

- 1) Nhyod Houay Bak Irrigation system
  - Dam
  - Irrigation canal
  - Drainage canal
  - Hydro-meteorological facilities
- 2) Namphou Irrigation system
  - Houay Xay weir with irrigation canal
- 3) Ban Lak 35 Agricultural Supporting Center
  - Buildings
    - ·Office building
    - · Rice store house
    - · Multipurpose building
    - Garage
  - Machinery and equipment for training and demonstration
  - Fish incubatory pond
  - Water supply facilities
  - Vehicles for agricultural extension

• Pickup 1
• Motorbike (75cc) 2
• Generator 2

Ele coy of

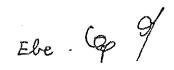
- 4) Rural road improvement (see Annex II )
- 5) Domestic water wells with hand pumps ( 10 Nos.)
- 6) Equipment for O/M of the constructed facilities

- Wheel loader (U.4m3)	T
- Backhoe (0.3m3)	1
- Mini backhoe	1
- Hand roller	1
- Dump truck (4t)	2
- Spare parts	
- Workshop car	1
- Vehicles for O/M	
· Pickup	1
∙Motorbike (75∞)	2

However, the final components of the Project will be decided after further studies.

#### 5. Other Relevant Issues

- 1) The Government of Lao should prepare the life reconstruction measures of the area where dam reservoir will be constructed and explain the measures to inhabitant concerned to get an agreement.
- 2) After reach the agreement, the Government of Lao should submit a copy of the agreement documents to Japan.
- 3) The Government of Lao should organize water user association for the project.
- 4) The Government of Lao should establish organization for sustainable implementation of the project and take necessary measures to achieve the objective of the project such as arrangement of staffs and allocation of the budget.
- 5) The Government of Lao should establish the administration programme of the Agricultural Supporting Center.

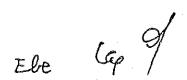


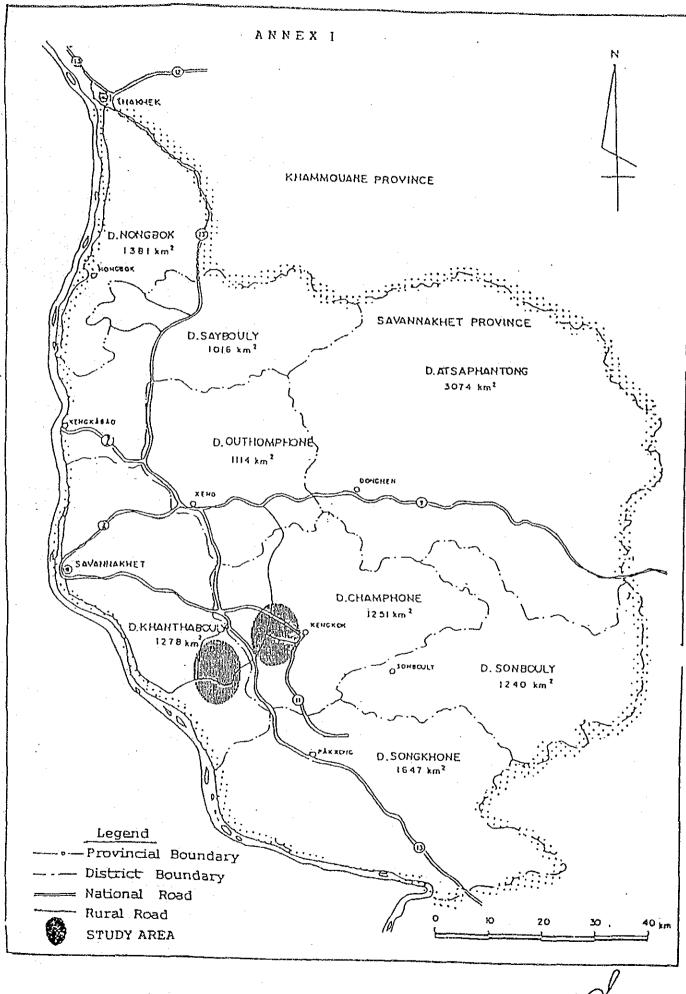
#### 6. Japan's Grant Aid System

- 1) The Government of Lao has understood the system of Japanese Grant aid Programme explained by the Team.
- 2) The Government of Lao will take the necessary measures, described in Annex III, for smooth implementation of the Project, on condition that the Grant Aid Assistance by the Government of Japan is extended to the Project.

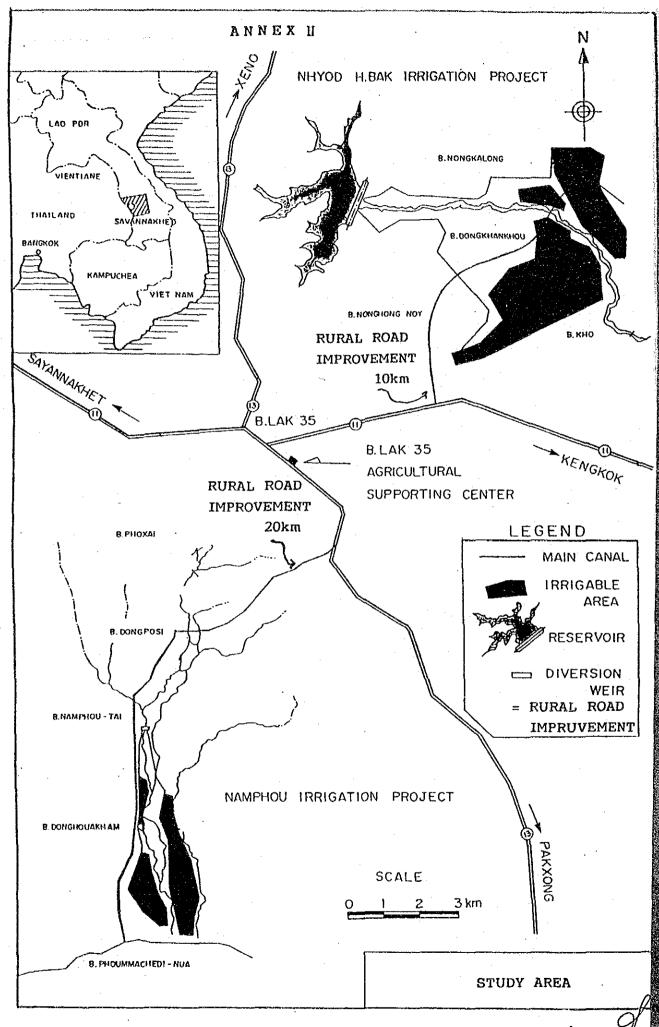
#### 7. Schedule of the Study

- The consultants will proceed to further studies in Laos until June 11, 1993.
- JICA will prepare the draft report on the Project in English and dispatch a mission to Lao in order to explain its contents in August, 1993.
- 3) After the contents of the report are accepted in principle by the Government of Lao, JICA will complete the final report and send it to the Government of Lao by the end of September, 1993.





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ANNEX II : Necessary measures to be taken by the Government of Lao in case Japan's Grant Aid is executed.

- 1. To bear all expenses for land acquisition for the project facilities and compensation to inhabitant concerned.
- 2. To clear, level and reclaim the site before commencement of construction.
- 3. To provide necessary facilities for the Project such as electricity and other incidental facilities.
- 4. To exempt taxes and to take necessary measures for customs clearance of the materials and equipment brought for the Project at the port disembarkation.
- 5. To bear all expenses other than those to be borne by the Grant, necessary for construction of the facilities as well as for the transportation and the installation of the equipment.
- 6. To construct tertiary canal system in the project area.

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#### LIST OF PARTICIPANTS

- Mr. Alom Thavonsouk, Deputy-Director of Cabinet, Ministry of Agriculture and Forestry
- 2. Mr. Soukaseum Bodhisane, Vice-Governor, Head of Agriculture and Forestry
  Department, Savannakhet Province
- 3. Mr. Langsy Sayvisith, Director of Irrigation Department, Ministry of Agriculture and Forestry
- 4. Mr. Somchith Thongphanheuangsy, Civil Engineer, Deputy Chief, Technical
  Division, Ministry of Agriculture and
  Forestry
- 5. Mr. Khammay Vongsathiane, Irrigation Engineer, Planning Finance & Co-operation Division, Ministry of Agriculture and Forestry
- 6. Mr. Bounmy Souvannalansy, Department of Agricultural Extension, Ministry of Agriculture and Forestry
- 7. Mr. Haruoki Ebe, Leader, Basic Design Study Team, JICA

  Deputy-Director, Chikugogawa-Karyuu Irrigation

  and Drainage Project Office, Ministry of

  Agriculture, Forestry and Fisheries
- 8. Mr. Narihide Nagayo, Grant Aid Planner, Agricultural Development Specialist, JICA
- 9. Mrs. Kimiko Ishikawa, Agricultural Development Planner, Senior Officer,
  Crop Production Division, Agricultural Production
  Bureau, Ministry of Agriculture, Forestry and
  Fisheries
- 10. Mr. Sakuzo Kanazawa, Irrigation and Drainage Planner, Kokusai Kogyo Co., Ltd.
- 11. Mr. Ikuro Inamori, Agricultural Facilities Planner, Kokusai Kogyo Co., Ltd.
- 12. Mr. Kensuke Sakato, Agricultural Economy and Extension System, Kokusai Kogyo Co., Ltd.
- 13. Mr. Kiyoshi Omameuda, Second Secretary, Japanese Embassy

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# MINUTES OF DISCUSSIONS BASIC DESIGN STUDY

ON THE INTEGRATED AGRICULTURAL RURAL DEVELOPMENT PROJECT
IN SAVANNAKHET PROVINCE

OF

LAO PEOPLE'S DEMOCRATIC REPUBLIC (CONSULTATION ON DRAFT REPORT)

In May 1993, the Japan International Cooperation Agency(JICA) dispatched a Basic Design Study team on the Integrated Agricultural Rural Development Project in Savannakhet Province (hereinafter referred to as "the Project") to Lao People's Democratic Republic, and through discussions, field survey, and technical examination of the results in Japan, has prepared the draft report of the study.

In order to explain and to consult the Lao side on the components of the draft report, JICA sent to Laos a study team, which is headed by Mr. Masaru Sasaki, Deputy Director, Office of Agricultural Water Management, Irrigation and Drainage Division, Ministry of Agriculture, Forestry and Fisheries, and is scheduled to stay in the country from September 1 to 7, 1993.

During the discussion, both sides are very honored to have the presence of His Excellency Mr. Sitaheng Rasphone, Vice-Minister of Agriculture and Forestry.

As a result of discussions, both parties confirmed the main items described on the attached sheets.

Mr. Masaru Sasaki

Leader,

Draft Report Explanation

Team, JICA

Masaru S

Vientiane, September 3; 1993

Mr. Alom Thavonsouk

Deputy Director of Cabinet

Ministry of Agriculture and

Forestry, LAO P.D.R.

Mr. Soukaseum Bodhisane

Vice Governor

Head of Agriculture and Forestry,

Savannakhet Province, LAO P.D.R.



#### ATTACHMENT

#### 1. Components of Draft Report

The Government of Laos has agreed and accepted in principle the components of the Draft Report proposed by the team.

#### 2. Japan's Grant Aid System

- 1) The Government of Laos has understood the system of Japanese Grant Aid Programme explained by the Team.
- 2) The Government of Laos will take the necessary measures described in Annex1 for smooth implementation of the Project on condition that the Grant Aid Assistance by the Government of Japan is extended to the Project.

#### 3. Other important issues related to the Project

- 1) Both sides have reconfirmed all the items appearing in the Minutes of Discussions signed on 28th May, 1993, a copy of which has been reproduced in the Draft Report.
- 2) The Government of Laos have presented the additional request, the team will report that to the Government of Japan.
- 3) The Government of Laos should construct tertiary canal system in the project area.
- 4) The Government of Laos should organize water user association for the project.
- 5) The Government of Laos should establish organization for sustainable implementation of the project and take necessary measures to achieve the objective of the project such as arrangement of staffs and allocation of the budget.
- 6) The government of Laos should establish the administration programme of the Agricultural Supporting Center.
- 7) The Government of LAO should solve the problems on the removement and the re-settlement of the people in the village which will be sunk.
- 8) The Government of LAO understand that technical cooperation can not be requested in Grant Aid system and another official request should be submitted through diplomatic channels.

#### 4. Further Schedule

The team will make the final report in accordance with the confirmed items, and send it to the Government of Laos by the end of October, 1993.

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- ANNEX I : Necessary measures to be taken by the Government of Laos in case Japan's Grant Aid is executed.
- 1. To secure the site for the Project.
- To bear all expenses for land acquisition for the project facilities and compensation to inhabitant concerned.
- To clear, level and reclaim the site before commencement of construction.
- To construct the access road to the site before commencement of construction.
- 5. To provide necessary facilities for the Project such as electricity, drainage, and other incidental facilities.
- 6. To bear commissions to the Japanese foreign exchange bank for the banking services based upon the Banking Arrangement.
- To exempt taxes and to take necessary measures for customs clearance
  of the materials and equipment brought for the project at the port of
  disembarkation.
- 8. To accord Japanese Nationals whose services may be required in connection with the supply of products and the services under the verified contract such facilities as may be necessary for their entry into Laos and stay therein for the performance of their work.
- 9. To maintain and use properly and effectively the facilities constructed and equipment purchased under the Grant.
- 10. To bear all expenses other than those to be borne by the Grant, necessary for construction of the facilities as well as for the transportation and the installation of the equipment.



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#### ANNEX II

Additional request by Lao side.

- 1. Additional Items
- 1) Bulldozer.

1 unit

- 2) Motor grader.
- 1 unit
- 2. Change Items
- 1) From

To

Wheel tractor shovel

Wheel roader shovel

#### LIST OF PARTICIPANTS

#### Lao side

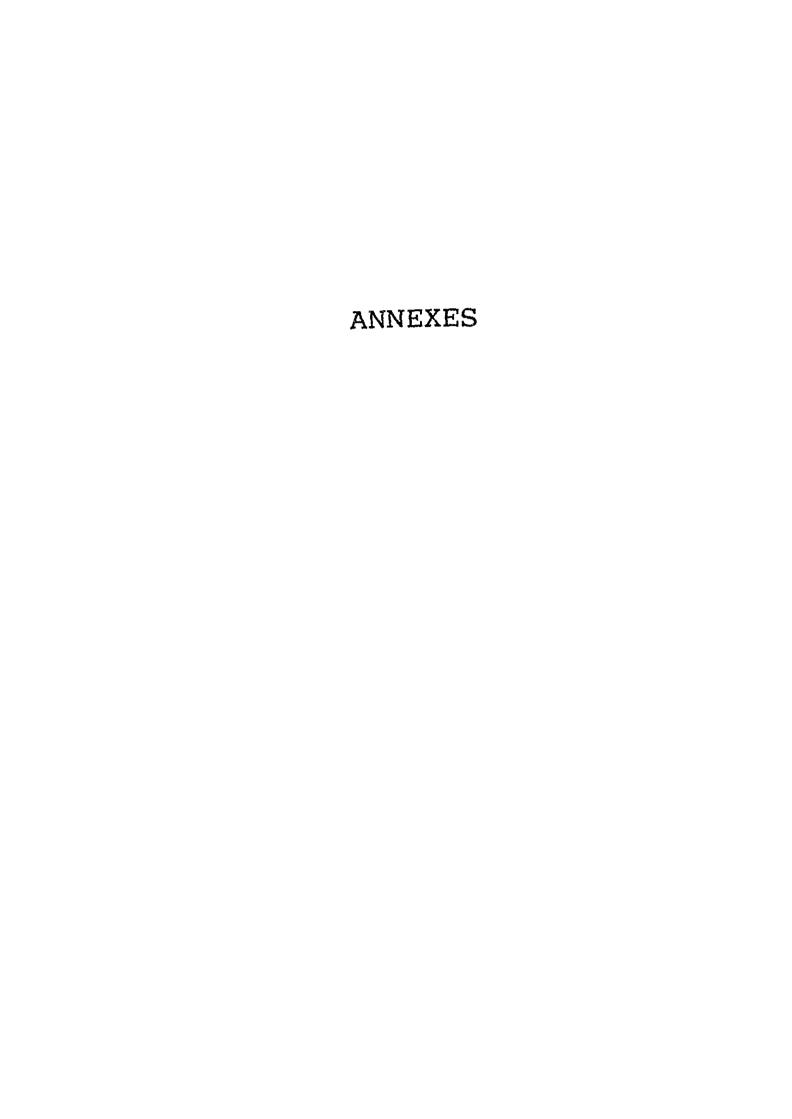
- 1. Mr. Sitaheng Rasphone, Vice-Minister, Ministry of Agriculture and Forestry
- 2. Mr. Alom Thavonsouk, Deputy-Director of Cabinet, Ministry of Agriculture and Forestry
- 3. Mr. Soukaseum Bodhisane, Vice-Governor, Head of Agriculture and Forestry Department, Sanannakhet Province
- 4. Mr. Vankham Thavonsouk, Deputy-Director of cabinet, Ministry of Agriculture and Forestry
- 5. Mr. Khammay Vongsathiane, Dorector, Planning Finance and Cooperation Division, Irrigation Department,
- 6. Mr.Soulivanthong Kingkeo, Deputy-Director, Division of Planning, Finance and Cooperation Department
- 7. Mr. Bounmy Souvannalansy, Department of Agriculture and Extension

#### Japanese side

- Mr. Masaru Sasal:i, Deputy-Director, Office of Agriculture Water management
   Management, Irrigation and drainege Divison,
   Ministry of Agriculture, Forestry and Fisferies.
- 2. Mr. Masahiro Tawa: First Basic Design Division, Grant Aid Study and Design Department, JICA.
- 3. Mr. Sakuzo Kanazawa, Kokusai Kogyo Co., Ltd.
- 4. Mr. Kensuke Sakato, Kokusai Kogyo Co., Ltd.
- 5. Mr. Kiyoshi Omameuda, Second Secretary, Japanese Embassy

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# 1. List of the procured Machinery and materials

## (1) O/M Equipment of the Facilities

No.	Machines/Materials	Specifications	Quantity	Reasons for Selection
1-1	Wheel Loader	0.4m3	1 unit	Repair of roads & irrigation facilities
1-2	Backhoe	0.3m <sup>a</sup>	1 unit	. dito
1-3	Backhoe	0.03m³	1 unit	dito
1-4	Bulldozer	3t	1 unit	dito
1-5	Dump Truck	4t	2 units	dito
1-6	Motor Grader	Bread 2.2m	1 unit	Repair of roads
1-7	Vibrocompactor	0.5t	1 unit	Repair of roads & irrigation facilities
1-8	Mobile Workshop	4t	1 unit	Repair of machines & vehicles
1-9	Pick-Up	2,000cc,4WD	1 unit	Facility maintenance & transfer
1-10	Motorcycle	75cc	2 units	Facility maintenance & transfer
1-11	Mower	Tank cap.0.60	2 units	Dam maintenance
1-12	Portable Pump	Ø=40mm	1 unit	Facility maintenance & transfer

# (2) Machines for the Agricultural Supporting Center

No.	Machines/Materials	Specifications	Quantity	Reasons for Selection
2-1 2-2 2-3 2-4 2-5 2-6 2-7 2-8 2-9 2-10 2-11 2-12 2-13 2-14 2-15 2-16 2-17 2-18	Pick-up Motorcycle Generator Tractor Hand Tractor Manual Thresher Motor Generator Winnower Sprayer Motorized Thresher Duster Flour Mill Meter Trailer Grain Humidity Verifier Vinyl Sheets Portable Pump Refrigerator	2,000cc, 4WD 75cc 25KVA 50 HP 8 HP 5 HP  100 kg 200 kg for rice 0.1mm thick with engine 200cc	1 unit 2 units 2 units 1 unit 3 units 1 unit	Guidance and extension Guidance and extension Operation of the Center Exhibition, education and extension Harvest study Harvest study Measurement of crops Crop covering Fry production Fry production

No.	Machines/Materials	Specifications	Quantity	Reasons for Selection
2-19	Balance	2 kg	1 unit	Fry production
2-20	Oxygen Bombe		1 pc	Fry production
2-21	Television	29 inches	1 unit	Education
2-22	Video Deck		1 unit	Education
2-23	Video Camera	Portable	1 unit	Education
2-24	Blackboard	Wall type	2 pcs	Water management and education
2-25	Megaphone		2 units	Water management and education
2-26	Photocopy Machine		1 unit	Writing of documents
2-27	Personal Computer	Hard: 40M	1 unit	Writing of documents
		Ram: 4M		
2-28	PC Printer		1 unit	Writing of documents
2-29	Soil checker		1 unit	Guidance on cultivation
2-30	Soil Drying Test		1 unit	Guidance on cultivation
2-31	Tester		1 unit	Guidance on cultivation
2-32	Simple Type Soil	MPK Ca Mg	1 unit	Guidance on cultivation
		PH analysis		
2-33	Measuring Tape	-3m	5 units	Harvest study
2-34	Balance	Max. 5kg	1 unit	Harvest study
2-35	Camera	F:35 mm wide	1 unit	Education
		Automatic		
		tripod		
		Accessories	1 unit	Education
2-36	Slide Projector	Manual	1 unit	Education
		control		

# (3) Equipment for Hydrology, Meteorology

No.	Machines/Materials	Specifications	Quantity	Reasons for Selection
3-1 3-2 3-3 3-4 3-5 3-6	Instrument Screen Thermohygrometer Rain Gauge Evaporation Gauge Current Meter Water Gauge	450x450x470 2-AB 1.1Q 1.0mm  Electrical Type Water Pressure type	1 unit	General meteorological observations Water level observation in dam
3-7 3-8	Planimeter recording Sheets		1 unit 1 set	Area measurement for 2 years

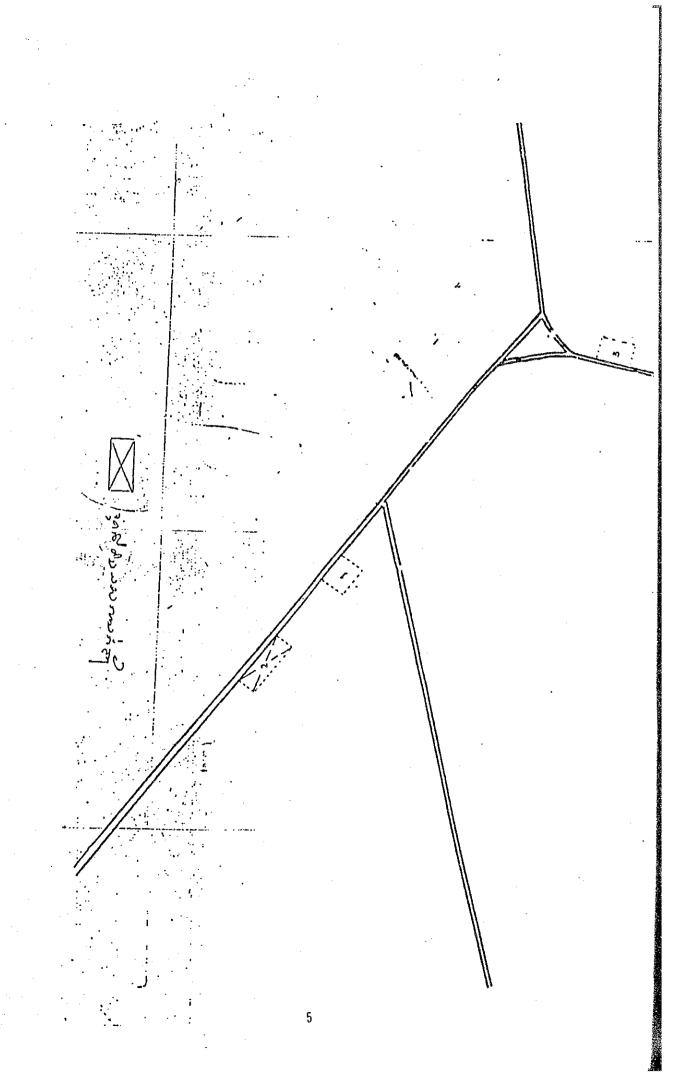
#### (4) Others

Spare parts of equipment and machines

## 2. Written Consent

Resettlement of the residents consecutive to the construction for Agricultural Supporting Center at Ban Lak 35

(September 20, 1991 Champhone District, B. Lak 35 Village)



בומענינית של יציקיניני בה בניה החילה สีมาของ เอาอาก เอาเกา เอาเกา 20.4 /41 المعارية المرابع المعارية المع किया रिस्क दाव हात किया है। किया वार्य के कार्य के अर के अर שנישות ביות ול בנם שנע בועעל נעון בה ביום , בועורים להוחושל נבון مدين و الموالية المعدد 150; 3) ການຈາດຕູ້ ເລະ ພາດບ້ອງດົນ ໃຫ້ພັນພພະກັນ ເຫັນດີ ເພາ້າ ເພາ້າ ແລະ ພວກ ເຊ້າ ແກ້ ແລະ ພວກ ເຊ້າ ແກ້ ແລະ ພວກ ເຊ້າ ແລະ ພວກ ເຊັ່ນ ເພາ້າ ເຂົ້າ 2500 150 150 = 22800 さらいなっていかいいいいいいいいいいいいいい را لاجع ال

Common of the same 
#### Written Consent

Resettlement of the residents consecutive to the Construction of the H. Bak Dam

(February 5, 1992, Champhone District, Nannadi)

ห. ธ<u>ลาธมิตกล้ำผด</u>บ

/ລກທີ່ ...../s

ບັນພື້ກຸນອບເນອທີ່ດິນ ໃຈນໍ່ທຶດແທບເບອທີ່ດິທິດຕົ້າ ປ້ານໂນບນາດີ , ຕາແສງ ,ບານົກອລົນ, ເນື່ອງຈຳພອນ

- ອີງຕາມນະຕິຕິກລິງຂອງເຈົ້າເນືອງຈະພວນຄັ້ງງັນທີ 3 ເດືອນ2 ທີ 1992 ກ່ວວກັບການຈັດກັນ ແປງປັນເບື້ອທີ່ດິນໃຫ້ມະນຶ່ງທົດແທນເບື້ອທີ່ດິນນາເກົາຊື້ງຈະຖືກນ້ຳກໍລັນຈາກໂສງການຈົນຈະປະທານຍອດ ຫວັນບັກ
- ຄິງໃສ່ການກວດກາວບຸດທີ່ບຸກວທີ່ກວນີ້ວະທຳການຜະລິດຂອງານ່ວຍລຸ້ນລວງຂອງພະແນກກະຊີກຳ ປ່າໄມ້ເນືອງຈຳພວນ
- ທ່ານຈາກການສຳຫວດກວດກາດກັບກຳວດບວງຕັ້ນໂດຍສິນທິເກັບການສະແຫນີລາຍງານຈາກພັນ ການສຸລະ ຈາກການສຶກສາເທິງແຜນຫຼືດສັນລ່າຈຸຂະເວດດັ່ງກ່າວມີເງືອນໂອງໃນການປຸກເທີກແບດທີ່ດິນນາ ໄດ້ ຈຶ່ງມີຄວາມຈຳເປັນຕໍ່ກໍເອີຍໃຫ້ລິວິດການເປັນຢູ່ການປຸກພັງລັດງສັດ ແລະ ອີບໃຊ້ການແຂລີດຂ່ວນ

- อักสะแนวกาดแคลิกแ

∾ ຄວງກັວ⊤ງ = 1ວດ √ນ

= ຄວງ ຍຸດວ = 200 ມ

- ชิกเติบก คิกทับ: ...สา.ชา.ชา.จ.สังง..........

- ทีกได้กักกับ : ......ผา.. ๆวิ.๖..๒१ ๔๔......

- ชิดตารอับสิทธิดาัย : ...สา. การิ อ. สนั้น มา สนั้น :

ສະນັ້ນທາງເຈົ້າເນຶ່າງຈຳພອນ ແລະ ລະຫະຫະກຸກກະສິກຳ- ປ່າໄດ້ເນື້າງ ຈຶ່ງໄດ້ເຮັດຍັນ ໜຶ່ນນອບກຸນາຍ ສະນັບນີໄວ້ ເພື່ອເປັນລັກການ ອ້ອນທັງນີຈິດນິຍທາດ ແລະນຳ<sup>9</sup>ຈັທຳການຕະລິດຕ<sup>ໍ</sup>ໄປ

<u> จะแชมเหตุแกละศึกร์- ประวัตรก่าว</u>

<u> อล้าอปีกุ๋ว - อนิกาลำบบ</u>

Borth.

້ ຕໍ່ ໃຊ້ວັກກະວົນ

เล่ายาการใช่เอก

ວັນທຶກນອບເປັ້ອທີ່ດິນໂຫນໍ່ທົດແໜເບື້ອທີ່ດິນເກົາ ປ້ານໂນນນາດີ . ຕາແປງ . ນານົກຂຽນ, ເນື່ອງຈຳພວນ

- ອີງຕາມນະຕິຕິກລີງຂອງເຈົ້າເນື້ອງຈຳພວນລິງ ບູນທີ 3 ເດືອນ2 ທີ 1992 ກ່ຽວກັບການຈັດຄືນ ແປງປັນເນື້ອທີ່ດິນ ໃຫ້ມະນີວທີ່ຕາທາເບັດທີ່ດິນນາເກົາຊື່ງຈະຖືກນ້ຳກໍລັນຈາກໂກງການຈົນລະປະທານຍອດ ຫວັບບັກ

- ລິງ ສຳການກວດກາດນິ້ອທີ່ບຸກດນິກ ເມືອທຳການທະລິດຂອງ ໝ່ວຍສຸ້ນສາງ ງອອງພະແນກກະສິກຳ ປ່າໄມ້ເນື່ອງສຳພອນ

- ต่ามจากภาษะกากการกายการกับกระจับกู้ก็ปรักยสิมพิเทียกามสะสานีลายๆๆขจากใน ทางและ จากภาษะการสารพบที่ออับสำคอยเจอกถึงก่างมีเรืองประชิษทางบุทธากเบื้อที่กับบา รัก้ จึงมีลวางจำเป็นแก้รถุรียที่ตัววิกกางเป็นปู่ภามบุทที่ๆลับวัสด และ รียที่สุดามสะลึกส่วน ที่สยออุปปะการิบที่ก็ถือบุรที่จละก้าง

- <u>รูบชะกะรอบเกอเน</u>ก: เ

ົຄວງກ້ວາງ = 100 ນ

- ภอา ยาอ = <u>ถอ</u>ว \_ม

- ที่กลางอับที่กริวรับ : .... ปร. ปล พ. การ / ล.ส. . ไว้. ง

ສະນັບທາງເຈົ້າເນື່າງຈຳພອນ ແລະ ລະນະນອນກາກະລິກຳ- ປ່າເນັເນື່ອງ ຈຶ່ງໄດ້ເຮັດບັນ ທຶກນອນສາມາຍ ສະນັບນີ້ໄວ້ ເພື່ອເປັນລັກການ ນິຍນກັງນີ້ຕິດຄືນໜອດ ແລະນຳໃຈ້ທຳການທະລິດຕົ້ໄປ .

ที่ จำแดบ , อันที . 5.2/72.

<u> คะบะผะสบุทกะสิทร์- ป-+บัดนิกา</u>

··· <u>เล็กเม็กๆ - เมื่อใจกับเด</u>บ

ひらいかりし,

ຊູ້ ໃຊ່ຊະນະນຶ່ງ

## สะคากรบชกัด ปราศัตโชโต ปจะจับลาด บอกการบชกกัด บายสาดอ กรัชษที่เลยช่า กาลสกอล บานที่บุธี

ເຂົ້ອງເຖິງກາລຸການຄົນ

/ລກທີ ·····/ຈາ ກັບທຶກນອບຮຸ້ງຄຸກຕົ້ງທ່ານທີ່ຕາມທົດການພົດຄົ້ງ ບ້ານໂນບນາດີ , ຕາແສງ , ນານົກຂຽນ, ເນືອງຈຳພອນ

- ສິງຕາມນະຕິຕິກສິງຂອງເຈົ້າເນືອງຈານດູນຄົງງັນທີ 3 ເດືອນ2 ຢີ 1992 ກ່ຽວກັບການຈັດກັນ ແນ້ງປັນເນື້ອທີ່ດິນໃຫ່ນະກືອທີ່ຕະໜຸງເນື້ອທີ່ດິນນາເຖົາຊຶ່ງຈະຖືກນ້ຳກຸລັນຈາກໂຄງການຈົນລະປະທານຸຍອດ ຫລັບບັກ

- ລີງໃສ່ການກວດກາວນິ້ອທີ່ບຸກເບີກເພື່າຫາການຕະລິດຂອງກນ່ວຍຄຸ້ນອວງຂອງພະກນກກະສິກຳ ປາໄນີເນືອງສຳພວນ

ໃຫ້ຄອຍມີກຸລະປະທິນ ແລະ ລູກ ປະຊຸດ ເພື່ອສະນຸມ ອຸ ເຄື່ອການ ເຄື່ອກ ປະຊຸດ ເພື່ອການ ເຄື່ອການ ເຄືອການ ເຄື່ອການ ເຄືອການ ເຄື່ອການ ເຄືອການ ເຄື່ອການ ເຄື່ອການ

ດ້ວນູນທາງເຈົ້າເນື່ອງຈຳພອນຈີງໄດ້ເຮັດປິດຍັນທຶກນອນເນື້ອທີ່ດິນໃຫ້ນ້ຳເຫັນ. ເພື່ອມານອ ດ້ວນູນທາງເຈົ້າເນື່ອງຈຳພອນຈີງໄດ້ເຮັດປິດຍັນທຶກນອນເນື້ອທີ່ດິນໃຫ້ນ້ຳເຫັນ. ເພື່ອງຈຳພວນເພື່ອເປັນການທົດ ແຫນເນື້ອທີ່ທຸງເກົ່າ ເຈິງຈະຖືກນ້ຳຖ້ອນຈາກໂລງການກໍ່ສ້າງຊີນລະເປະທານຍອດກ້ອນບັກ ຈຳນວນ 2 ຣ/ເ ລະຄອດລຸ່ນນີ້:

- ฐบระกรรธายาอดูปก

- คอาทีกาก = 100 ม - กอา ยาอ = 200 ม A

ສະມັນທາງເຈົ້າເນື່າງຈຳພວນ ແລະ ລະຫະນະນາກະຈິກຳ- ຢ່າໄມ້ເນື່ອງ ຈີງໄດ້ເຮັດບັນ ໜຶ່ນຄບຫນາຍ ສະມັນນີ້ໄວ້ ເພື່ອເປັນລັກການ ຍ້ອນກັງນີ້ຈິດພື້ນພອດ ແລະນຳໃຈ້ໜຳການພະລິດຕໍ່ໄປ .

> ที่ จำนอบ , อันที่ 5 // 2 ะบะมะของเลมะจิทร์- ปางบัญโดว เร็วอร์ก็กา - รถิกาจำนอบ เกิดที่การ ในเมื่อ เกิดของ เลยเก็บ เกิดของ เลยเก็บ 
> > 6 4 9 2 1 0 Fi

ຄູ່ ໄຊຊະນະວົງ

वनगुन्द्रसाध्येतः संभान्त्रीकार्यस्य ปองวิบุลาก ສີບໍ່ໃນກວ ເອກະລາດ ປະຊາທິປະຈິດ ເອກະນາບ ວັດທະນາກາວລນ <del>ငရိုရင်၍သူ ခုဂို</del>ပါလျ บันพิทุมอนะนี้จุฬิกษาปิสารเพยเบ็จที่กับเท็ว ປ້ານໂມນູນາດີ , ຕາແສງ , ນານົກຂຽນ, ເນືອງຈຳພອນ - ອີງຕາມມະຕິຕິກລົງຂອງເອົ້າເມືອງຈຳພວນຄົງ ໄທີ 3 ເດືອນ2 ປີ 1992 ກ່ຽວກັບການຈັດຕັນ ແປງປັນເນື້ອທີ່ດິນໃຫ້ມະເມືອທີ່ຕາເໜົ້າຕີ ຕ້ອຍເບິ່ນກາດຄົ້າຊື່ງຈະເມື່ນນ້ຳຖືລັກຈາກໂສງການຈີນສະປະທານເຄດ ຫວັຍບັກ - ຊຶ່ງ<sup>ຄ</sup>ູ່ສູ່ການກວດກາ ເປລທີ່ປຸກເບີກເພື່າທຳການທະລິດຂອງ ນ້ວຍຄຸ້ນຄາງຂອງພະກຸນກຸກະສິກຳ ข่าไม้เมื่อๆจำแดบ. - ທ່ານຈາກການສຳຫລດກາດກັບກຳເນື່ອງຕັ້ນໂດຍສິນທິເກັບການປະເທນີລາຍງານຈາກເນ ทางและ จากภาษฐกลาดที่วัฒนที่เกิดมีบล่า ออยตอกก็ฏท่างมีดี วิดบ<sup>ร</sup> อ<sup>9</sup>นภาษยุกดี ที่กับบา <sup>†</sup>ດ້ ຊຶ່ງນີ້ຄວາມຈາດປັນກຸກັ ຂຣັບ<sup>9</sup>ຮູ້ຄີວິດການເປັນຢູ່ການຢູ່ກຄັງລັຽງສັດ ແລະ ອີບ<sup>9</sup>ຊັການພະລິດລ່ວນ ในเอลองกุลสาลีก<sub>อน</sub>ับลูก เมื่นขอมนาย • ດ້ວນມູນທາງເຈົ້າເມືອງຈາພອນຈິງໄດ້ເຮັດບົດບັນທຶກນອນເນື້ອທີ່ດິນ ຈຳມາກັດກໍ. 🚻 🕡 ເ ..ວັງ.....ປະຊາຈົນຢ້ານໃນນູນາດີ ,ຕາແສງ ,ນານົກຂຽນ, ເນື່ອງຈຳພານເພື່າເປັນການຫົດ ແທນເນົ້າທີ່ພາດກິ່ງ ເຊິ່ງຈະເຖືກນ້ຳຖ້ວນຈະກີເລງການຕໍ່ສິ່ງໆຊີນລະເປະຫານຍຸດທ້ວຍຍັກ ຈຳນວນ 2 ອ/ກ ລະຄຣົດລຸ່ນນີ້ : - คอาที่อาก = :100 - คอา ยาอ = อกอ ม - ชิกรติบุค คิกทัม: 🐴 🤼 วาว วา // // ... สะบับหาวูดจ๊าดมีกฎจำผลมู และ กะบะมะบบททะยีทำ- ปาไม้ดูมีคุก จำได้ดุรักบับ ທຶກນອບການາຍ ສະກັບນີ້ໄວ້ ເພື່ອເປັນລັກການ ສ້ວນທັງນີ້ຄິດຄືນທອດ ແລະນຳ?ຈັຫາການພະດິດຕົ້ນ! • ກິ ຈາ ລນ , ວັນທີ ... 5 / /7.2. <u>ห- ปารับรูโกว</u>

สาหาวิชมชาติ เป็นระโดโชโช ปจาติบูลาด ที่บุติบาย ตุลหลาก ปชจาให้ประโท การบาน ลักผชบาทาวกบ =====000001

เลาเมือกลักเกม

ບັນໜຶ່ນອບເປື້ອທີ່ດິນໂຕນ່ທີ່ດາເຫນເນື້ອທີ່ດິນເກົາ ປ້ານໂຍນນາຕີ , ຕາສສາງ , ນາຖືກຂຽນ, ເນື່ອງຈາພຈນ

– ອີງຕາມນະຕິຕິກອີງຂອງເຈົ້າເນື່ອງຈຳພວນສິ່ງ"ບທີ 3 ເດືອນ2 ທີ 1992 ກ່ຽວກັບການຈັດຕັນ ແບ່ງປັນເມື່ອທີ່ດີນໃຫ່ນເຄືອທີ່ຕະຫນຸເນື້ອທີ່ດີນນາເກົາຊຶ່ງຈະຖືກນ້ຳກວັນຈາກໂອງການຈົບລະປະທານຍອດ ຫວັບບັກ

— ສິ່ງໃສ່ການກວດກາຍນິ້ອທີ່ບຸກເນີກເພື່າທຳການຜະລິດຂອງຈຸນ່ວຍຄຸ້ນລາງຂອງພະແນກກະສິກຳ ປ່າໄດ້ເນື່ອງສຳພວນ

້ ທ່ານຈາກການສຳພວດກວດກາດກັບກາດນີ້ດາຕິປາດບສິນໜີເກັບການປະເພນີລາຍງານຈາກເນັ້ນ ການແລະ ຈາກການສຶກສາດທິງແຜນຫີດພັນສຳຂວນເຂດດັ່ງກ່າວນີ້ເງື່ອນ ໄຂໃນການເກດເບື້ອທີ່ດິນນາ ໄດ້ ຊຶ່ງນີ້ກວານຈຳເປັນກັໄຂອື່ນໃຊ້ອີວິດການເປັນຍູ່ການຢູ່ກທັງລ້ຽງອັດ ແລະ ອີບໃຊ້ການແຮລີດສ່ວນ ໃຫ່ຍອດງປະຊາຊົນໃຕ້ຂີ້ອີບເທືອລະກາສ •

ດ້ວນນຸທາງເຈົ້າເນື່າງຈຳພອນຈີງ ດີເຮັດປົດບັນທຶກນອນເນື້າທີ່ດີນາ ທັນ ທີ່ ໄດ້ວ່າ ຄະດວິດລຸ່ນນີ້:

ແຫນເນົາທີ່ທູງເຄົ້າ ເຊິ່ງຈະຖືກນ້ຳຖວັນຈະກໂລງການກໍ່ສິ່ງຊີນລະປະທານຍອດສ້ວຍບັກ ຈຳນວນ 2 ຮ/ກ ລະລົດລຸ່ນນີ້:

- ฐบนะกะธอบญอนูปก:

ຕ ຄວງກິວງງ = 100 ມ ຕ ຄວງ ຍາວ = 200 ມ\_

ສະນົນທາງເຈົ້າເນິດງຈຳພອນ ແຄະ ລະນະນະການກາະສິກຳ- ປາໄລ້ເນື້ອງ ຈຶ່ງໄດ້ເຮັດຍັນ ທຶກນອບການາຍ ສະນັບນີ້ໄວ້ ເພື່ອເປັນລັດການ ຄ້ານທັງນີ້ຕິດປິນທອດ ແລະນຸຄົງຈັດຄຳຄານພະລິດຕໍ່ໄປ

गर्दा श्रीभ स्था ที่บุณีทาก เอบรองบุ กุรองผูกรุง เอบรทาก บุบมาปรอบก

ตลีวิธีมีอาล่าแถบ

กับเการาย เการ์ ປ້ານໂນນນາດີ ເຕາແສງ ເນານົກຄຽນເຜື່ອງຈຳພວນ =====00000======

- ອີງຕາມມະຕິຕິກລິງຂອງເຈົ້າເມືອງຈຳພວນສິ່ງງັນທີ 3 ເດືອນ2 ຢີ 1992 ກ່ວວກັບການຈັດກັນ ເ ແປງປັນເນື້ອທີ່ດິນໃຫ້ມະທິດທີ່ເຂຫນເນື້ອທີ່ດິນນາເກົ່າຈຶ່ງຈະຖືກນ້ຳກວັນຈາກໂສງການຈີນຈະປະທານຸນອດ 

ຼື ຊີງໃສ່ການກວດກາດນິກທີ່ປຸກເນີກເພື່າທຳການທະລິດຂອງໆນ້ວຍຊີ້ນສດໆຂອງພະແນກກະສິກຳ ปารมีเมือาจังเฉบ.

= ທ່ານຈາກການສຳຫລດກວດກາດຕ້ານກຳ ເນື່ອງຕົນໂດຍສິນໃຫ້ເກີຍການສະເຫນີລາຍງານຈາກເພ ทาบสละ จากทาบล็กสารตัวสผบติงอับก่าอุลยรอกกัวท่างมีรวิลทุ่งในทาบทุกราทธบิ๊จติถึมษา <sup>ร</sup>ู้ดี จุ๊วมีออกบลกรปัญทัก อุธียใจอีอีอีกทาบเป็นปู่ทาบปูกฟักุลัรกูสัก และ รียใต้ทานแะอีกส่อน ໃຫ້ຍຂອງປະຊາຈົນ<sup>ໃ</sup>ກ້ດີຂຸນເທີດຂະກ້າວ •

ถีวบับพากูเจ้าเมือกจายจมจิกาถีเรียบิดขึ้นพิทษยนนั้วพิกีบ?ที่ม<sup>จ</sup>ทับที่ 💯 . รา. . ມີ....ປະຊາຈົນບ້ານໂນນນາດີ ,ຕາແສງ ,ນານົກຂວນ, ເນື່ອງຈຳພດນູເພື່ລເປັນການນົດ ແຫນວນົດທີ່ກູດວິດີຈຸດວິດຈະຖືກນ້ຳກວັນຈຸກໂລວການກໍ່ສິ່ງລົນລະປະທານຍອດທ້ວຍຍັກ ຈຳນວນ 2 ຮ/ຄ ຄະດຽດລຸ່ນ<sub>ນີ້</sub> :

- <u>จักสะแะออาณอติก</u>ิบ:

~ ຂວງຖ້ວາງ ≕

າ ຄວງ ຍາວ **ສ**ະ 200

- ทิกตารอับติทริกาับ : ...... ฟ้า *ได้วงการการ โดง* . ไ.ว้

สะบบทาวจจ๊าจมีกาจานคบ และ กะบะบชาบททะจีกุล- ปางบัดมีกุล จีกรถัดจัดถับ พิกมอยามาย สะกับประวั เพื่อเป็นมีกรางปรักษัตรูมิวิเกรียพอก และบริวัตร์ทางกะลึกตั้งป

ທີ່ ຈຳພອນ , ວັນທີ ... > ... /7.

<u> คะบะมะมุบทกะสิทร์- ปรุบัติโรร</u>

... <u>เลาะก็ว่า - เก็บาลุงเก</u>ก

रांस अधि। द्वीत ที่บุติหาบ canzaro ปะจาที่ปะโก canzwru ลักหะบากาลจบ

6 ลา 6 <u>มีอาจานเอบ</u>

านักบายการแก้น เมื่อเหมายการเกาะการเกาะ ປ້ານໂນນນາດີ , ຕາແສງ , ບານຶກຂຽນ, ເນືອງຈຳພວນ

= ອີງຕາມນະຕິຕິກຈິງຂອງເຈົ້າເນື່ອງຈຳພວນຈິງງັນທີ 3 ເດືອນ2 ຟີ 1992 ກ່ຽວກັບການຈັດຄືນ ເ ແປງປັນເນື້ອທີ່ດິນໃຈນະເພື້ອທີ່ດານພວເນື້ອທີ່ດິນບາເຄົາຈຶ່ງຈະຖືກບໍ່ໂຖວັນຈາກໂສງການຈີນຈະປະທານພອດ ກວັບບັກ ·

- ຄິງໃສ່ການກວດກາ**ະ**ນຸຄທີ່ບຸກເມີກເມື່າທຳການພະລິດຂອງຈປ່ວຍຈຸ້ນສາງຂອງພະແນກກະຊິກຳ ປາເນີຍນຶ່ວໆໝໍພວນ.

ຕ່ານຈາກການສຳຫລດກວດກາດກັບກຳເຂັດ ເປັນ ກ່ານສຳຫລດກວດກາດກັບກຳເຂັດ ເປັນ ຄົນສິນໜຶ່ງກັບການສະເຫນີລາຍ ງານຈາກເນ ຖານແລະ ຈາກການສຶກສາເທິງແຜນທີ່ເຫັນວ່າ ຈອນເຂດວັງກ່າວນີ້ເງືອນໄຂໃນການທຸກເທີກເນື້ອທີ່ດິນນາ ได้ จ๊ามีออกบลางปัญที่ไรยรับใจ้อีวิดภาษงปัญชุกามปูกตัวลัฐาสัด และ จับใจักามแรลิดส่อน ง เมื่อ 
ก็วู้บุ้นทาวงจึง เมื่อวจานอบจีว ได้ เรียบบิดขึ้นที่ทุกอย เกลที่ถึบ ใจ่มาตัดภ่. เมา ຼະ້ຳວ່າ....ປະຊາຈົນປ້ານໂນນນາດີ ເຕາສາງ ເນານົກອວັນເຊື້ອງຈຳພຸດພະໜຶດເປັນການຫົດ ແຫນວນີດທີ່ມູກຮຄືກ ເຊິ່ງງຈະຖືກນ້ຳຖວັນຈາກໂລງການກໍ່ຢ່າງລຸ້ນລະເປະຫານຍຸດຕໍ່ຄົວຍັກ ຈຳນວນ ຂ ຣ/ຕ

์ <u>- ลักสะแนะคาดแคติ</u>วิบ:

- ຄວງກັດາງ = 100 = ഉള്ള കൂട്ടു  $\frac{2}{l}$  . 

ยะกักณาใจสูงเก็บใจงานอก แบะ บรกรายเก็บผลขนาน กุรที่เก็บกับ สูงเก็บรูป

ທຶກນອບການາຍ ສະກັບນ້ຳວັດທີ່ອຸດປັນລັກການ $\delta$ ກາກັງນີວິດປິນທອດ ແລະນຸກົດຈັທການແຮ່ລິດຕົ້າM

รับสิ ... 5. ... 17

<u> ระบะแลงบทุจะสิทริ- ปาร์ที่คริกร</u>

<u> - / เราะบิวา - เการที่ยอม</u>

∕ລກຄິ

5 37 6 10 7 9 7 8 10 11

ນັບທຶກນອບເມອທີ່ດິນໃຫມ່ທົດແທນເນອທີ່ດິນເກົ່າ ຢ້ານໂນນນາດີ , ຕາແສາ , ນານົກຂຽນ, ເນືອງຈຳພວນ /ລກທີ

- ສີ ງຕາມນະຕິຕິກລິງຂອງເຈົ້າເມືອງຈຳພານສິ່ງງັນທີ 3 ເດືອນ2 ທີ 1992 ກໍລວກັບການຈັດຈັນ ແປງປັນເນື້ອທີ່ລິນໃຫ້ນະທີ່ອທິດແຫນະບອກີດໃນນາຍກຳຊື່ງຈະຖືກນ້ຳກຸລິນຈາກໂສງການຈົນຈະປະທານະເອດ ຫວັບປັກ

- ອີງ ໃສ່ການກວດກາຍນ້ອຍໃນກະນິດທຳການຜະສິດຂອງ ນ່ວຍຄຸ້ນຄວງຂອງພະແນກກະສິກຳ ຢູ່ກຳກັບນ້ອງຈຳພວນ.

ทางและ จากภาบสำหวดกวดการที่ยกระยด ก็ตั้งโดยสิมพิทักยกามสะตาบิลายๆกูบจากกับ กางและ จากภาบสิทสารพิกและพิติยับล่างกยุธอดีกก่าวมีธารีกประชางกางทุกระที่สดีสอบ ได้ สิ่วมีลอกบจำเห็บก็ก็ได้ของเกือนก้าง เป็นผู้กานทุกตัวลังกับ และ ซึ่งใช้ภามแะลิดส่อบ ให้ยอกปะสาริบ<sup>จะ</sup>ดีลีของเกือนก้าง .

ດັ່ງນັ້ນພາງເຈົ້າເນື່ອງຈຳພອນຈີງ ດີເຮັດບົດຍັນທຶກນອນເນື້າທີ່ດົນ ຈຳນາກັກກຳ. ຜູ້ ການ ເພື່ອງຈຳພອນເນື້ອເປັນການທົດ ແຫ່ງ ເນາຟາງ ເນາປົກຄວັນ ເນື່ອງຈຳພອນເນື້ອເປັນການທົດ ແຫ່ງເນື້ອທີ່ການ ເນື່ອງຈຳພອນເນື້ອນ ເພື່ອງຈຳພອນເນື້ອເປັນການທົດ ຂອງຕ່ອງຄວາມ ເພື່ອເປັນການທົດ ຂອງຄວາລຸ່ນນີ້ :

– <u>ទ្ឋាមភាកទទី៤៣៦មូហ</u>ា:

	ຕ ຄວງກ້ວາງ, = 100 ນ
	= ຄວງ. ຢາວ ≃ 200 ນ <b>/</b>
-	- คอา ยาอ = อกา ม ก พิกุรติบค ศิกทิม:
	ที่การักษากับ : คา กาง ปรา
	ชิกตาเอียาภาษิกกับ :ประชาว
_	ที่กตารอับกิทธิภาัย:?พร. อัว.วุ

ສະນັ້ນທາງເຈົ້າເນຶ່ງງຈຳພອນ ແລະ ລະນະນະນະແບກກະຍິກາ ທ່າໄມ້ເນື່ອງ ຈຶ່ງໄດ້ເຮັດບັນ ໜຶ່ນອບຈາມາຍ ລະບັນນີ້ໄວ້ ເພື່ອເປັນວັກການ ຮ້ອນກັງນີ້ຕິດໃນຫາດ ແລະນາໃຈ້ໜ້າການພະລິດຕໍ່ໄປ .



ที่บัญหาย เอกะฉาก ปะจาชีปะสาย เอกะบาก กับขยายากากกับ

ะ เราเมื่อประการให้เกม

วันพื้นเอเลียง เลียง เล ປ້ານໂນນນາດີ , ຕາແສງ , ນານົກຂຽນ, ເນືອງຈຳພອນ /ລ໗ທີ່ ....

= ອີງຕາມນະຕິຕິກອີງຂອງເຈົ້າເນື່ອງຈຳນວນຄັ້ງງັນທີ 3 ເດືອນ2 ທີ 1992 ກ່ຽວກັບການຈັດຄັນ ແປງປັນເນື້ອທີ່ດິນໃຫ່ນະນືອທີ່ຕາທູນເນື້ອທີ່ດິນບາເກົາຊື່ງຈະຖືກນ້ຳກຸດັນຈາກໂຄງການຈົນລະປະທານຸພອດ **ຫ**້ວຍບັກ

 ຊຶ່ງ ໃສ່ການກວດກາ ເນື້ອທີ່ຢູກເນີກເພື່າທຳການຜະລິດຂອງ ານ່ວຍຄຸ້ນສອງຂອງພະແນກກະສິກຳ . ປ່າໄມ້ເນືອງຈ<sub>ະເປ</sub>ດບູ.

= ຂ້ຳນອາກການສຳຫຼວດກວດກາດກັບກຳເບດງຕົນໂດຍສິນທຶ່ງກັບການປະເທນີລາຍງານອາການ ทาบรละ จากภาบล็ทสารที่กุรเผบที่เอยับก่าจดยรอกถึกท่าอมีร วือบ \* 2 ในทาบบุทร ปี กรบอดีถึบบา ໄດ້ ລິດກິສວະກຸດພະດູກແມ່ງ ອຊຸດ, ພອງວູວູດນະກິດດູກຄົ້ນຈຳກົນຫຼວ້ອຽດສູບ ແລະ ຊຸດ, ກໍມາກິຄະສູດຊອກ

ໃຫ່ບລອງປະຊາຈົນໃຫ້ດີລາເທື່ອລະກ້າລ ດ້ວນມູນທາງເຈົ້າເນື່ອງຈຳພອນຈີງໄດ້ເຮັດບົດບັນທຶກນອບເນື້ອທີ່ດິນໃຫ່ນໃຫ້ແກ່. ເກີ. ຜູ້ນີ້ .....ປະຊາຈົນປ້ານໂນນນາດີ ,ດາແສງ ,ນານົກຄຽນ,ເນື່ອງຈຳພດນູເຟື້ດເປັນການຫົກ ແຫນຣນູລູເພົ້າຂໍ້ມູນ ເປັນ ເປັນລະນັ້ນກຸມນູ້ນີ້ ຄຸກ ເປັນລະນາການກຸ່ສູ່ ເປັນສະເຖະພາກຄອບພູສຸລຄຸກ ສຸກຸກລຸກ ວ ຂຸ້ນ ເປັ ຄະດຽດຈຸ່ນນີ້ :

- <u>จัทสะแะออาณอดี</u>กีบ:

- ຂວງກ້ວາງ = 100 = ຄວ<u>ງ ຢາວ ≂</u> 20ວ

ະໜ້າການ ທີ່ ເພື່ອເປັນລັກການ ລົດກັນລົງລີ ຄວາມຄວາມ ຄວາມຄວາມ ຄວາມຄວາມຄວາມ ຄວາມຄວາມຄວາມຄວາມຄວາມຄວາມຄວາມຄວາມຄວາມຄວາ

<u> กะบะพรพบทกะสิทจ- ป-+มัดปิดว</u>

\*\* <u>เราะนิกา - อนิการ่ายก</u>บ

สายาายบรรีก ประวาชิเมโต ปรุกธิบลาก ที่บริเทาบารลาก ประวาชิเมโต กาลรับมากากคบ =====00000======

<u> ธลายมีตาลาผย</u>เ

ວັນທຶກນອບເບລະທີ່ດິນໂຕນທີ່ດາແທບເບລທີ່ດິນເກົາ ວັກນໂນນນາດີ , ດາສອງ ,ນານົກຂອນ, ເນືອງຈຳພວນ

- ອີງຕາມນະຕິຕິກອີງຂອງເຈົ້າເນື່ອງຈຳພວນສິ່ງງັນທີ 3 ເດືອນ2 ຟີ 1992 ກ່ຽວກັບການຈັດຕັນ ແປງປັນເນື້ອທີ່ດິນ ໃຫ້ມູເພື່ອທີ່ດັນທານອັດຕິນ ພາຍຄົດ ຫວັນບັກ

- ອີງ ໃສ່ການກວດກາ ເນື້ອທີ່ພຸກເບີກເມືດທຳການຜະລິດຂອງ ານ້ວຍຄຸ້ມຄວງຂອງພະເນກກະສິກຳ ຢ່າໄມ້ເນື່ອງຈະພວນ.

ດັງກົນທາງເຈົ້າເນື່ອງຈຳພວນຈີງໄດ້ເຮັດບົດບັນທຶກພວບເພື່ອທີ່ດິນຈຳມາທັດກໍ່ ເວົ້າ ເພື່ອງຈຳພວນຈີງໄດ້ເຮັດບົດບັນທຶກພວບເພື່ອທີ່ດິນຈຳມາທັດ ເພື່ອງຈຳພວນຄົນຄົນທີ່ດິນຈາກໂລງການກໍ່ສ້າງຈີນລະປະທານຍອດທັດຍປັກ ຈຳນວນ 2 ອ/ຕ ຄະຄວົດລຸ່ມນີ້:

- อุมชุรกรรธวิญษัญกะ

ສະບົນທາງເຈົ້າເນື່ອງຈຳພອນ ແລະ ລະນະນະນະນຸກກະຈິກຳ ປ່າໄດ້ເນື່ອງ ຈຶ່ງໄດ້ເຮັດບັນ ທຶກນອບສານາຍ ສະບັບນີ້ໄວ້ ເພື່ອເປັນລັກການ ຄ້ອນທັງນີຈິດປິນທອດ ແລະນຳ ໃຫ້ທຳການພະລິດກໍ່ໄປ ເ

	the management of the state of
	ສັນຕິພາບ ເອກະລາດ ປະຈາໃປປະໂຕ ເອກະພາບ ລັດທະນາກາວອນ =====00.000=======
<u> </u>	Month of the state
	วันพีทมอยเบลดีถึบ?ๆม่ติภาเทมเบลที่กับเก็ว
	ປ້ານໂນນນາດິ , ຕາແສງ , ນານົກຂຽນ, ເນືອງຈຳພວນ ******
	– ຼື ອີງຕາມນະຕິຕິກລົງຂອງເຊົ້າເນື່ອງຈຳນວນຄັ້ງ ນີ້ທີ 3 ເດືອນ2 ຟີ 1992 ກໍ່ລັດກັບການຈັດຈັນ
	็วปันธนิจที่ถิ่นใต่นธพิลติณตเลเอริลิถีบบครที่ครื่าจะถืกบ้ำก่อมจากโลกทาบรบละปะตาบยาด
រាចិ	ยบัก
	ຸ້ ຊຶ່ງ <sup>9</sup> ສ່ການກວດກາ <b>ວ</b> ນີ້ ຊີທີ່ທຸກເບີກເທື່າທຳການພະລິດຂອງກູນວມຊຸ້ນລາງຂອງພະກຸນການສີກຳ
રીન	รู้มีเราะบาง
	່ - ທ່ານຈາກການສຳພວດກວດກາດກັບກາດບ້ອງເຖິນໂດຍສິນທີ່ເກັບການສະເພນີລາຍງານຈາກພື້ນ
ከግ	บหลุม จากภาบล็กฝางที่ๆหลุมที่อุตับล่าจอยเจอกถึงก่าวมึงที่จบไขในภาบยุทงยึกงบิคที่ถิ่นนา
¥្តិត	ີຊິງນີ້ຄວານຈຳເປັນກຳໄຊຮີບ <sup>າ</sup> ສີຊີວິດການເປັນຍູ້ການປູກຝັງສ້ຽງສິດ ແລະ ອີບໃຊ້ການຜະລິດຊ່ວຍ
?= <del>1</del> 1	ยวลานไซลา ลิบ <sup>คุ</sup> ซีก็ลับ เดือละท้าก
	์ กีฎบุ๊บตากูเล้าเมือกล่าผอบสิกากัเรอีกยึกขับตีกบอยเน็กตีกับ?ก่ม?กับที่
	ປະຊາຈົນປ້ານໂນນນາດີ ,ຕາແສງ ,ນານົກຂວນ,ເນື່ອງຈຳພວນເພື່ດເປັນການຫົດ
យល	ું <sup>(K.</sup> ນິດມີດີທີ່ປູກດີກິ່ງ ດີຊຶ່ງຈະຖືກນ້ຳຖືວັນຈາກໂລງການກໍ່ສັ່ງງຊີປລະເ <sup>1</sup> ະຫານຍອດກັດຍບັກ ຈຳນວນ 2 ຣ∕ເ
้	ครักจุ่มปี :
•	- รับสะบะออาณ์ดิติก็เ
	– ຄວງກັລາງ = 100 ນ
	= ຄວາ ອາວ =  20ວ   ນ
•	
٠	- ชิกรติบุค คิดทัย:
	- พิกตาเอียาลูกติกที่ย : ป. ค.ค.ค.ค.ค.ค.ค.ค.ค.ค.ค.ค.ค.ค.ค.ค
	- ทีกตรอับที่กา๊กรับ :
•	สะบบทาวจจ๊าจมาวจำผอบ และ กะบะเซเบกทะศึกจำ ปาไม้จมิวา จึงได้จะดีขับ
ື້ທາ	ນອຍຫນາຍ ສະບັນນີ້ໄວ້ ເພື່ອເປັນສັກການ ຄົວກັກງນີ້ຄິດຄົນຫອດ ແລະນຳໃຈ້ໜ້າການພະລິດຕໍ່ໄປ
	ທີ່ 😁 ເລນ , ວັນທີ່
	ຄະນະພະໜຸກຄະລິກາ— ຢ້າໄດ້ຕົວງ ເຂື່ອງເພື່ອງ - ເຖືອງຈະພອນ

สูกนาก ขอมรอบบ กุลอบบูกรุสุน ขอมสุกาก ของคุณ สูกนาก ขอมรอบบ กุลอบบูกรุสุน ขอมสุกาก ของคุณ สุการกรุฐบ

<u> ฮลาดูโคาล่ามดูบ</u>

/anii ...../
วันที่ขามอยอบูลที่ถิ่นใจมีที่กาะพบอบูลที่ถึงอก็จ ข้างโบบบาดี , การสา , บางิกอร์บ, อบิลกูลกูแลบ

ຼຸ ອີງຕາມນະຕິຕິກອິງຂອງເຈົ້າເນື່ອງຈຳພວນສິ່ງງັນທີ 3 ເດືອນ2 ຟີ 1992 ກ່ຽວກັບການຈັດກັນ ແນ້ງປັນເນື້ອທີ່ລິນໃຫ່ນເພື່ອທີ່ຕາຫນເນື້ອທີ່ດິນນາເກົາຊື່ງຈະຖືກນ້ຳຖຸລັນຈາກໂສງການຈົນຈະປະທານພອດ ຫລັ້ນປັກ

- คิวใช่มาบทอกการนี้คิที่บุทรยึกรดีาทำทาบพะลีกอลวาบ่วยลุ้มลาการควุมชาบทกะศึกษ์ ข่าไม้เมื่อวิชาชนเอบ

- ທ່ານຈາກການສຳຫວດກວດກາດກັບກາດບົດກຸດເຄີນທີ່ເກັບການສະເລນີລາຍງານຈາກເນື້ອ ການແລະ ຈາກການສຶກສາດທຶງແຜນຫົດຫັນສຳຂອບດອດດັ່ງກ່າວນີ້ດຽວນໄຂໃນການບຸກຕະເກດນ້ອຍດີດິນນາ ໄດ້ ຊຶ່ງນີ້ລວານຈາດປັນແກ້ໄຂຮັບໃຊ້ອີວິດການເປັນບຸການໄກຝັ່ງຄັ້ຽງສັດ ແລະ ຮັບໃຊ້ການພະລິດຈ່ວນ

ໃຫ້ບອດໆປະຊາຈົນ ໃຕ້ດີຂຶ້ນເທື່ວລະກ້າວ

ດ້ວງບຸນທາງເຈົ້າເນື່ອງຈຳພອນຈີງ ດີເຮັດບົດບັນທຶກນອບເນື້ອທີ່ດິນ ຈຳມາ ທີ່ ເພື່ອງຈຳພອນຈີງ ດີເຮັດບົດບັນທຶກນອບເນື້ອທີ່ດິນ ຈຳມາ ເພື່ອເປັນການພົດ ແຫນເນົ້າທີ່ພາເກົ່າ ເຈິ່ງຈະຖືກນ້ຳຖືດ ພາ ຄົວງການກໍ່ມ່າງຈີນລະປະທານບອດທີ່ຄອບບັກ ຈຳມານ 2 5/ຕ ລະຄຽດຂຸ້ນນີ້:

- <u>ຈັກສະນະຂອງດູບອທີ່ດີ</u>ນ:

ຕ່ຄວງກິດາງ ≂ 100 ມ ຕ່ຄວງຢາວ = 200 ມ

- ทิกไก้ทึกกับ : .....คร. .วว. ล.คร.....

- ที่กล่ารอับสิกศิภาัย : ....คว. คจ.จ.จ.จ.จ.ว่าระจ.

ສະບົນທາງເຈົ້າເນຶ່ງຈຳພອນ ແລະ ລະນະນະນາກາະນິກຳ- ປາໄນ້ເນື່ອງ ຈຶ່ງໄດ້ເຮັດບັນ ໜຶ່ນອບານາຍ ສະບັນນີ້ໄວ້ ເພື່ອເປັນລັກການ ຮ້ອນທັງນີ້ຕິດປິນຫລຸດ ແລະນຳ?້ຳທຳການປະລິດກໍ່ໄປ.

8 4 au , Sun ... S. 17.2.

อะบอมอย่ากาะวิกร- ปาร์บันกา

<u> ...เราะบิวา - เบื่อวจรมงบ</u>

Brother,

ຊ້ ໃຊ້ວິ່ະກະວົງ

### ดาคนติกาย กรัชบระทาง กรัชบราการขน ขาดการานรถกลั บานรถอุว กรัชษ์ที่การช่ การเสดอ บานทีบซี =====0วาวา=====

H &

/ລກທີ ...../ຈ ບັນໜຶກນອບເນອທີດິນ<sup>ຈາ</sup>ກມໍທິດແທນເນອທີດິນເກົາ ປ້ານໂນນນາດີ , ຕາແສງ , ນານົກຂຽນ, ເນືອງຈຳພອນ

- ສິງຕາມນະຕິຕິກຄິງຂອງເຈົ້າເມືອງຈຳພວນຄຶ້ງງັນທີ 3 ເດືອນ2 ຢີ 1992 ກໍລວກັບການຈັດກັນ ແປງປັນເນື້ອທີ່ດິນໃຫ່ມະທິສທີດແທນເນື້ອທີ່ດິນນາເກົາຈຶ່ງຈະຫຼືກນ້ຳກຸດັນຈາກໂຄງການຈົນລະປະທານຍອດ ຫວັບບັກ
- ຈິງໃສ່ການກວດກາຍນິ້ອທີ່ບຸກຍົກຍຸມົາທຳການທະລິດຂອງກູນ່ວຍຄຸ້ນສອງຂອງພະກຸນກຸກະສິກຳ ປ່າໄມ້ເນື່ອງຈຳພວນ.
- ระ ทำบลาททาบสำนอดทอดทางที่ยกำงอน อีกกับโดยสิทธิงเทียกาบสะตอบิลายากบลหังกับกา การและ คากทาบลีกสางที่วันสบติงตับล่างลองจอดดีวีก่าวนึงาวัน วิลัก และ ซึ่งก็จัการแกะลิกส่วน ใช้ จีวิบิลอากจำงอนกับทั้ง อธิยารีอีวิดทาบงปักถุ่กกบทุ่กผิวลัง วิลัก และ ซึ่งก็จัการและลิกส่วน

ດ້ວນມູທາງເຈົ້າເນື່ອງຈຳພອນຈີງໄດ້ເຮັດບົດບັນທຶກນອນເນື້ອທີ່ດີນຳກຸ່ນໃຫ້ແກ່. ເມື່ອງວ່າ ແຫນເນົາເຫຼີ່ມາເຕົ້າ ເຊິ່ງຈະເຖີກນ້ຳກ່ວັນຈາກໂລງການກໍ່ສ້າງຈີນລະເປະທານຍອດສ້ວຍບັກ ຈຳນານ 2 ຣາເ ແສນເນົ້າເຫຼີ່ມາເຕົ້າ ເຊິ່ງຈະເຖີກນ້ຳກ່ວັນຈາກໂລງການກໍ່ສ້າງຈີນລະເປະທານຍອດສ້ວຍບັກ ຈຳນານ 2 ຣາເ

- <u>จัทสะบะออาณีอดีก</u>น:

สะบับทาวจรีกรมีการคนอน แกะ กะบะบะบะบาทะจึกจั- ปาไบ้รมีกา จึกได้เรียบับ พีทบอยาบาย สะบับปีไว้ เพื่อเป็นวักกาม ยังหักวูมิจึกนียดคณ แจะปร<sup>ัก</sup>ตัดกามกะอึกก<sup>ั</sup>ไป

นัก เล่าการ เ

สาการบุชวัก ปราสโตโซโรก ปราจิบูลาด สับพิมาของการของการของกับประการของก

cane hareninu

ວັນທຶກນຸລຸບເນລທີ່ດິນໂຕນທີ່ດາເທນເນລທີ່ດິນເກົາ ວັກນໂປປູນເດີ , ຕາແສງ , ນານົກຂຽນ, ເນື່າງຈຳພວນ

/ann .....//

— ອີງຕານນະຕິຕິກລິງຂອງເຈົ້າເນື່ອງຈຳພວນລິງງັນທີ 3 ເດືອນ2 ທີ 1992 ກ່ຽວກັບການຈັດວັນ ເ ແບ່ງປັນເນື້ອທີ່ລົ້ນ ໃຫ້ນເພື່ອທີ່ການທູເນື້ອທີ່ລົ້ນນາເກົາຊື່ງຈະຖືກນ້ຳຖ້ວນຈາກໂສງການຈີນຈະປະທານແດດ ຫວັບບັກ

- คิวใส่ภามกอกการนี้ย์ที่บุครยึกเม็กทำภาษะลีกอลวาปอยลับลาวุลครุษะหมกกะสึกำ นำไม้เมื่อๆสมเดบ

" ต่ำบลากภาบสำนวกถอกการกับการเย็กว่าก็บนักรับการสะเหนือายากละดีกล่อน การและ ลากภาบสักสารพิธัยใช้อีอิกภาบเป็นผู้กาบสู่หญิงกายสะเหนือายากละอีกล่อน วิกี จี๊บมีขอาบลำเป็นกับ อธียุใช้อีอิกภาบเป็นผู้กาบสู่หญิงกับข้อมีก กละ อีนใช้ขาบละอีกล่อน ใช้ยอกปะจาจีนใช้ก็ก็จับเพื่ออะท้าอ

- รักสะบะรอกเบอติกิน:

- คอๆที่อาก = 100 ม - กาา ปาว = 200 บ - ทิกเต็นค คิกทีม: - - หัว คา ว่า

ສະນັ້ນທາງເຈົ້າເນິ່ງງຈຳພອນ ແຄະ ລະນະທອກນຸກກະນີກາ- ປ່າໄດ້ເນື່ອງ ຈີງໄດ້ເຮັດບັນ ທຶກນວບກນາຍ ສະນັບທີ່ໄວ້ ເພື່ອເປັນລັກການ ກ່ອນທັງນີ້ທີ່ດີບິນທວກ ແລະນຸກໍ<sup>າງ</sup>ຈັທຳການປະຊິດຕໍ່ໄປ .

สายการบรวัก ปราศัตโรโต ปจาติบลาล ที่บัฒาบ ตอกรอาก ปราค์โซโรโต ตอกเมาบ กัดพะบากาอคบ =====00000======

. ይቁሳይጀባብቁትክርክ ዘ

/ລກທີ ...../ເ ນັບໜຶ່ງນອນເປັ້ນທີ່ຕົ້ນໃຈນໍທີ່ຕາທາດບໍລິທີດິບຸດກົ່າ ນ້ານໃນນຸນາດີ , ຕາແສງ ,ນານົກຂຽນ, ເນືອງຈາພວນ

- ອີງຕາມນະຕິຕິກລີງຂອງເຈົ້າເນື່ອງຈຳພວນລົງຈັນທີ 3 ເດືອນ2 ທີ 1992 ກ່ຽວກັບການຈັດຄືນ ແປງປັນເນື້ອທີ່ດິນໃໝ່ມເພື້ອທີ່ດາເທນເນື້ອທີ່ດິນນາເຖົ້າຊຶ່ງຈະຖືກນໍ້າຄວັນຈາກໂສງການຈົນລະປະທານຸພອດ ຫລັບບັກ
- ອີງ<sup>ຈ</sup>ສ່ການກວດກາຍນັ້ອທີ່ປຸກຍນີກຍນີ້ຕະການທະລິດຂອງ ານ່ວຍຄຸ້ນຄາງຂອງພະນຸມກະສິດຳ ປາໄມ້ເນື່ອງຈຳພວນ.

ໃຫ້ຍອກງປະຊາຈົນໃຕ້ດີຂຶ້ນເພື່ອລະກ້າວ .

ດີງນັ້ນທາງເຈົ້າເນື່ອງຈຳພອນຈີງໄດ້ເຮັດຍົດຍັນທຶກນອຍເນິດທີ່ດິນໃຫ້ເກົ່. ທີ່ກັດກໍ່ ທີ່ໄດ້ເປັນການພົດ ແຫນເນິດທີ່ປຸດທີ່ຕໍ່ ເຊິ່ງຈະຖືກນໍ້າຖວັນຈາກໂລງການກໍ່ລົ່ງຊົນອະປະທານຍອດຫ້ວຍຍັກ ຈຳນວນ 2 ຣ/ຕ ລະລົດສຸ່ນນີ້:

- <u>อักสะแรงจายเกิด</u>ที่:

ສະບົນທາງເຈົ້າເນື່ອງຈຳພອນ ແລະ ກະນະນະແນກກະລີກຳ- ປ່າໄມ້ເນື່ອງ ຈຶ່ງໄດ້ເຮັດຍັນ ພຶກນອນການ ສະນັບນໍ່ໄດ້ ເພື່ອເປັນລັກການ ນ້ອນທັງນີ້ຄິດລິບທອດ ແລະນຳ ຈັທຳການຕະລິດຕົ້ງປຸ

 रोस नालाम्हरत

Carchonavion

บับพิทบอนเบื้อหีก็กราทพิพาเพกเก็บเน็บเน็บเน็ ປ້ານໂນນນາດີ ເຕາແສງ ເນ້ານົກຂອນເວື້ອງຈຳພອນ

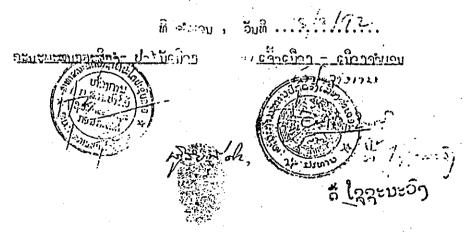
- ອີງຕາມນະຕິຕິກລີງຂອງເອົາເນືອງຈຳພວນລົງງັນທີ 3 ເດືອນ2 ທີ 1992 ກ່ຽວກັບການຈັດຕັນ ແປງປັນເນື້ອທີ່ດິນໃຫ່ມະລືອທີ່ຕາທຸເນື້ອທີ່ດິນນາເກົາຊື່ງຈະຖືກນ້ຳຖ້ວນຈາກໂຄງການຈົນຈະປະທານເອດ ຫວັບບັກ
- ອີງ? ສໍການກວດກາວບອດທີ່ບຸກເບີກເພື່ອທຳການທະລິດຂອງງານວບຄຸ້ນສາງຂອງພະແນກກະຂິກຳ ປາ<sup>ບ</sup>ຸ້ນເນືອງຈຳພດນຸ.
- ผ่าบลากภาบสำนอกกอดการที่ยกระยืด ก็เปริกยสิมพิงภัยภาษสะระหนีลาย ๆ บลาภาษ กางและ จากทายลิทสารที่กูแผนที่อุดีบล่า จอยจอกกัวทำอุที่รวิจบา อ<sup>9</sup>บทาบยุทธปิกธนี้จิที่กับบา <sup>†</sup>ดี จ๊ั๊ฏมิลอกบจกัดปัญที่ที่ปลุริยใต้จิ๊อ๊ดกามดปัญยุภาษฐกลีกูลีกัฏลีการต จัยใต้ภาษพะลิกัสอบ

ໃຫ້ຍອຄງປະຊາຈີນໃຕ້ດີສິນເທືອລະກ້າວ ດີງພູນທາງເຈົ້າເນືອງຈຳພອນຈີງ ເລີເຮັດຍົດຍັນທຶກນອນເນື້ອທີ່ດີນໃຫ້ນາໃຫ້ແກ່. ຄະຄຽດຄຸ່ນ<sub>ນ</sub> :

- <u>อุ</u>บชุลกลรอง ดู

- คอวที่จาว = 

ຶທກນວບສນາຍ ສະນັນນຳວັ ເພື່ອເປັນວ່າການ ອ້ອນທັງນີ້ຄິດຄືນພອດ ແລະບຸຄຳຈັນຄວາມສະລິດຕົ້ນ! .



## April William ลีบุติบาย อากะลาด ปรุจาโซไซโลก ออุกสบาย ถืดตะบากาวกบ

ເຂົ້າເນື້ອນຈຳຄວາ ∕oηဨ . . . . . . . / < บับตึกมอยอนีวขี้ถึง "าม่ติวาเพอบอลีร์งบอกี ย้ายโปบยาดี เการสา เบาปีกตรียเผลิตฏจำผาบ – ສິງຕາມມະຕິຕິກລິງຂອງເຈົ້າເພື່ອງຈຳພາບລິງງັນທີ 3 ເດືອນ2 ຢີ 1992 ກ່ຽວກັບການຈັດກັນ ແນ່ງປັນເນື້ວທີ່ດີນໃຫ້ນະຫລວກັດທີ່ດາເຫນເນື້ອຕີດິນນາຍໃຈຖືກຈະຊື່ກນ້ຳກ່ວນຈາກໂອງການຈີນຈະປະທານພອດ ະກວັບປັກ ลิวาสทาบทอกทายนิคสินุทยยิทยมิกตามาบละลิดออากบ่อยอุ้มลอกออามะหมุกทะสิทา ປ່າໄປເນື້ອງຈຳພອນ. ผ่าบลากทาบสำหรอดทอดทางทียกระบล ๆ เป็นโดยสิมฆิยภัยภาษณะ เลบีลาย ๆ บลากผบ ทางชอน คาภภายใหล่คดติบหลังของตับล่างอยดอกถึงท่าอมิดเรื่องข้อในทางยุทดมีหลือติถีมบา หลัก จีกภิตอกบุลกัดมีบุลที่ที่ คริยให้อีวิกกานต์ปั่นยุ่นานมุ่นผู้กรักษัต และ รียใช้มานผะจีกส่วน ใช้ยอกๆปะลาลิบ<sup>จะ</sup>ก็อบเพื่อละท้าอ • ຄະຄວດຄຸ້ນ<mark>ທີ</mark> : - ຣັກສະນະຈຸວ່າຜູ້ເຄືອດ - ຣັກສະນະຈຸວ່າຜູ້ເຄືອນ: — ຄວາຖິລາງ .<del>≡</del> - nan yag = 200 – ທິດເລີ່ນາ ຕິດກັນ..... - ทีดได้กิดกับ: ... - ที่ถดารอับที่ที่ที่ดำบับ : ......ยำ.ภา. คำวัน ..... สะบับตาวูเจ้าเมื่อกูจาพกบ และ กะบะบะทบทุทะสิทา ปารมีเชื้อกู จึงรถีเรียกภัพ ທຶກນອບຈນາຍ ສະບັນນີ້ໄວ້ ເພື່ອເປັນລັກການ ອ້ອນທັງນີ້ຕີດຜົນທອດ ແອະນຸກໍໃຕ້ທຶກການປະເອີດຕົ້າປ

<u>อีกร- ปารบับเกิด</u>

### <u>ย คายมีคาค่าผยบ</u>

ວັນທຶກນອນເບລະຕິດິນໃຈນ່ທຶກສະຫນະບວກີດິນເກົາ ປ້ານໂມນນາດີ , ຕາແສງ ,ນາບົກຂຽນ, ເນື່ອງຈຳພວນ

— ອີງຕາມນະຕິຕິກລິງຂອງເຈົ້າ ເນື່ອງຈຳພານສິ່ງງານທີ 3 ເດືອນຂໍ ຟີ 1992 ກ່ຽວກັບການຈັກຈີນ ແປງປັນເນື້ອທີ່ດິນ ໃຫ່ນວກິດທີ່ຕາສຫມຸເນື້ອສີດິນນາເກົາຊື່ງຈະຖືກນ້ຳກວັນຈາກໂອງການຈີນຈະປະທານຍາດ ຫວັບປັກ

- ອີງໃສ່ການກວດກາຍນອທີ່ບຸກຍນິກເພື່າທຳການພະຈິດຂອງໆນ້ວຍຄຸ້ນລາງຂອງພະກຸນກຸກະລີກຳ ປາໄດ້ເນື່ອງສຳພານ

- ທ່ານຈາກການສຳຫລດກວດກາດກັບກຳແນວ ງຕ່ຳນຳດຍຜົນໝົ້ນການຝະເລນີ້ລາຍ ງານຈາກນັ້ນ ການແລະ ຈາກການສຶກສາເທິງແຜນຫົວສັບລຳຂວນເຂດດັ່ງກ່າວມີເງືອນ ຈຳການພຸກຕິກເນອທີ່ດິນນາ ໄດ້ ຊຶ່ງມີຄວາມຈຳເປັນກໍ່ກໍ່ຂອບໃຈລີລິດການເປັນຢູ່ການປູກຄັງວັຮິງສັດ ແລະ ອີບໃຊ້ການທະລິດສ່ວນ ໃຫ້ມຂອງປະຊາງທີ່ໃດວິດເທື່ອລະກ້າວ

- รูปสะการธาตาอดูปก:

- ຄວງກິລາງ = 120 ມ' - ລວກ ສວວ = ຄວວ

- ชิดงกัติกักย์

- ทิวตาเวียายทติดที่น : ...... พรง เมื่อ เรียง

- กิกการอับถึกกิกรัช : ....รัว.คว.รั้ง.ผัง. ...

ສະນັ້ນທາງເຈົ້າເນິງໆຈຳພານ ແລະ ກະນະນະກັບກາະຈິກຳ- ປ່າໄດ້ເນືອງ ຈຶ່ງໄດ້ເຮັດຍັນ ທຶກນອບຈາມາຍ ສະກັນນີ້ໄດ້ ເພື່ອເປັນກິການ ກັງທັງນີ້ໃດໃນສາດ ແລະນຳໃຊ້ທຳການປະລິດຕໍ່ໄປ

remainstanting days

<u> เกาะบิลา - เนื้อกล้าผอบ</u>

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້ ໄຊຊະນະວົງ

7.5.5

ວັນທຶກນອບເບລີເດີນໃຈນໃດກະທຸບເບລີເດີນເກົາ ປ່ານໂມນູນາດີ , ຕາແສງ , ນານີກຂຽນ, ເນືອງຈຳຄວນ

ສຸສິງຕາມນະຕິຕິກລິງຂອງເຈົ້າເໜືອງຈາຍອນສິ້ງງານທີ 3 ເດືອນ2 ທີ 1902 ກ່ຽວກັບການຈັດວັນ ແປງປັນເນື້ອທີ່ດິນ ໃສ່ນວະເອີດທີ່ແຫນເນື້ອທີ່ດິນນາເຈົ້າຊຶ່ງຈະຖືກນ້ຳກໍລັນຈາກໂອງການສິນລະປະທານເອດ ຫລັບປັກ

- ລິງ<sup>ກ</sup>ູຟການກວດກາຍນີ້ຄູ່ທີ່ປຸກຍນິກຍະນາການພະລີດຂອງກູບ່ວຍລຸ້ນລວງຂອງພະກຸນຄຸກະນິກຄຸ້າ ປາໄນ້ເນື່ອງຈະພວນ

ດ້ວນບທາງເຈົ້າເນື່ອງຈຳພວນຈີງ ຕໍ່ເຮັດຍຶດບັນທຶກນອຍເນ່ນຜິດນ້ຳກໍ່ນາລັດກໍ່ເຂົ້າ. ພາວງ . ພາວງ . ພາວັນ ເນືອງຈຳພວນເພື່ອເປັນການທົດ ແທນເນົ້າທີ່ພູດເຈົ້າ ເຈົ້າງຈະຖືກນ້ຳຖືວັນຈະກຳລາການກໍ່ປ່າງວົນສະປະທານຍຸດຕັ້ວຍຸບັກ ຈຳນວນ ວິ ຣັກ ລະເວັດລຸ່ມນີ້:

- ភ្នាក់សាកនសាលាចិញ្ញា:

ຕ່ອວງກ້ອງໆ ≔ 19ວ <u>ນ</u>

− ຄວງ ຢາວ່ ≖ ຂວວັ່ນ *0* 

- ชิกเต็นก ทิกทัม : . . . . รา . ภาค ภา. . .

สะนับหลาดเล็กเมือดลักษณะ และ กะบะพยนบทกะศักร์ ประวัตถุนิกา สิกรัสเรียกกับ พิทมอบานาย สะทัยนี้วิธี เคือเป็นมี การ รัฐษัทฏ์มีวิธีของถูก และบริวัตร์ทาบพะเจ็กตุโป

માં માત્ર જાણી ...?

กรมรบุทภัญหลังกับ ปาใช้ เกา

<u> เราะบิวา - เนื่อวจำมอบ</u>

ຳ ໂຊຊະນະວົງ

<u>संसान्त्रीक्षाक्षणः</u> จีนตีขอบ เอกมออก ประจาที่ประกิ เอกมข้าย ลักตะบาทาอาม านิจนาที่เคยงเพาะที่นา ในก็ที่คุมจนอนเพิ่มนั ข้าบโมบบาถี , การะกา , บาบีกอร์บ, เมื่อกล้าแลบ - ສິງຕາມນະຕິຕິກຈິງຂອງເຈົ້າເມືອງຈຳພວນຕົງຈຳພວນຕົງ ປີ 6ຕື້ອນ2 ຢີ 1992 ກ່ຽວກັບການຈັດຄັນ ແນ່ງປັນເນື້ອທີ່ດິນໃຫ່ນະຄືດທິດແທນເນື້ອທີ່ດິນນາເກົາຈຶ່ງຈະຖືກນ້ຳກຸ້ວນຈາກໂຄຸກການຈົນລະປະທານຸຍອດ ຊຶ່ງ?ຢການກວດກາວບໍ່ຄຸດທີ່ພູກວນີກວນີ້ຂອງການທະລິດຂອງກູນວນຊຶ່ນລອງຂອງພະກຸນກຸກະຊິກຳ ປາໄປເນືອງຈຳນວນ 📜 ະກອງຈະທອນ. - ທ່ານຈາກການສຳຫລດກວດກາວຕົກຍຸກາ ເພື່ອໃຊ້ ໄດ້ ໄດຍສິນທະກັບການຄະດານີ້ລາຍງ້ຳກວນກາກ หาบและ จากภาบจ็กลางที่งานบดิงที่บล่าจอยงจอกดี วน่าอมีตรีอบ เอ<sup>จ</sup>บทาบบุทตรีกิดบิลที่ดีบบา ໄດ້ ຊຶ່ງມີຄວາມຈາຍປັນແກ້ໄຂຮັບໃຊ້ວິວິດການເປັນຢູ່ການທ່ຳກັປລັດປຸສົດ ແລະ. ອັບໃຊ້ການທະລິດສ່ວນ ໃກ່ຍຂອງປະຄາຊົນໃຕ້ດີຂົນເທື່ອຄະກ້າວ ້ດ້ຽນບໍ່ຫາງເຈົ້າເຖິງງຈາພານຈີງ ຄະເຄຍກັນທຶກນອນເນື້ອທີ່ລິນ? ຈີນໃນແກ່ ......ປະຊາຈົນນ້ານໃນບນາຕີ ເຕາເສງ ເນາປົກຄວນເເນື່ອງຈຳພດນເນືດເປັນການມົດ ແທງເປຼາທີ່ປຸງເຄົາ ເຊິ່ງຈະຖືກປ້ຳຖວັນຈະກົດຕາມກໍ່ສິ່ງຊີບລະປະທານຍອດທ້ວຍຍັກ ຈຳນວນ ຂ s/n ละคริกลุ่ม<sub>น</sub>ี้ : - <u>จับนุรกรรชายาอัน</u>บก: - ກວງ ປາດ = 200, - สิกเดียก สิกทัยนำ ....เราเรา - ทีกตารจับติหติดรับ : ...*สม.เม.ปะ*เมา...

ສະນິນຫາງເຈົ້າເນື່າງຈຳພວນ ແລະ ລະນະທະເນກກະຈີກຳ - ປາໄມ້ເນື້ອງ ຈື່ງໄດ້ເຮັດຍັນ ที่กรอยกราย สะทัยย์ใช้ อยืออยีนรักราย สารทักร์มิโดยียยคด และรับริวิลัตร์กรบละลึกต์โน! •

> ວັນທີ ត្តិ **ទ**ាទម 🗧

<del>จะแบบขบบบบบที่กระ ปร</del>าบัดใกร

mດັບບັກ

ສາກາງສົກຄຸ້ນ ປະຈາໃຫ້ປະໂຕ ປະກາວິນຄາດ ສັນຕິທານ ເດກະລາດ ປະສາໃຊ້ປະໂຕ ເອກະພາບ ລັດທະນາຫາສວນ =====000000======

### ธ <u>คายมีคาสำน</u>วบ

ວັນທຶກນອນເນື້ອທີ່ດິນໂຕນທີ່ການຫນວນດີທີ່ດິນເກົາ ປ່ານໂນນນາດີ , ຕາແກງ , ນານົກຂະນ, ເນື່ອງຈະພວນ

- ສິງຕາມນະຕິຕິກລິງຂອງເຈົ້າເມືອງຈຳພວນສິ່ງງັນທີ 3 ເດືອນ2 ຢີ 1992 ກ່ຽວກັບການຈັດກັນ ແນ່ງປັນເນື້ອທີ່ດິນໃສ່ມຸດພື້ອທີ່ດາແທນເນື້ອທີ່ດິນບາດກໍ້າຊື້ງຈະຖືກນ້ຳກລັນຈາກໂສງການຈົນຈະປະທານຍອດ ຫລັບບັກ

- สิวใส่ทาบทอกทางบัลที่บุทงยึกงผืาทำทาบพะลึกออากป่อยอุ้มอกาอกาษยาบททะสิทำ ชำใช้เมื่อวงสพอบ

- ທ່ານຈາກການສຳຫລດກວດກາດກັບກຳຂັນດຽຕັ້ນໂດຍສິນຫາກັບການປະເທດກັບການໃນ ການແລະ ຈາກການສຶກປາດທຶງແທນຫົດພັນວ່າອວນເຂດດັ່ງກ່າວນີ້ເງື່ອນໄຂໃນການປຸກຄວີກເນືອນີ້ດີນູ້ນາ ໄດ້ ຊຶ່ງມີຄວາມຈຳເປັນຕູ້ ອຸຮັບໃຊ້ສີວິດການເປັນບໍ່ການປູກຄັງຄ້ອງກັດ ແລະ ຮັບໃຊ້ການທະລິດປ່ວນ ໃຫ້ຍອດທ່ອງຈຸກັນໃຊ້ສີດ ທີ່ຄວະກ້າວ

ດັ່ງບັນທາງເຈົ້າເນື່ອງຈຳພວນຈີງ ດີເຮັດນີເນັນທຶກນອນເນົ້າທີ່ດັນໃຈນໍາການ ເປັດເປັນການທົດ ເຫນຸເນົ້າທີ່ທູງເຕົ້າ ເຊິ່ງຈະຖືກນ້ຳຖວັນຈະນຳລາການກໍ່ສິ່ງລືນລະເປະທານຍຸດຈັດຍຸບັກ ຈຳນານ 2 ຣ/ຕ ຄະຄວົດຈີນນີ້

- จายชนะอการและกับ

- ຄວງກີລາງ = 100 ົນ

- ຄວາ ຍາວ = <u>ເ</u>ດວ

- ทีกกาะเอียกลุภทิกทีย : ...ระวุชาจ. สิตร์.

สะบับทาวดจึกรมีกาจานกบ และ กะบะแบบทาะกิกา- ปาโม้เม็วก์ จึกได้เรียบับ ที่ทุมภูมทุมคย สะมัยนี้ได้ เมื่อเป็นมีภาคม ก็คมทั่งมีวิเดใยสดด และนำ?กับการบารดัดก็ไป

DETENDENT TO THE PARTY OF THE P

ີ່ເລຼາ:**ນ**ະທີ່)

ละการบุชกัก ปราสโดเชาต ประจับตาก จีบถึงกับ ออกหลาก ประจาใช้ชาต ออกหมาบ กับท่ะบาการกับ =====00000=======

<u> เล็กชรีเอาตำบอบ</u>

ປະທິກນອບເບອທີ່ດິນ "ກນ່ທິດະທານເບອທີ່ດິນເກົາ ອ້ານໂປນນາດີ , ຕາແສາ , ບານົກຂຽນ, ເນື່ອງຈຳພານ =====0ລາງ======

- ອີງຕາມມະຕິຕິກອີງຂອງເຈົ້າເມືອງຈາຍເບື້ອງກັນທີ 3 ເດືອນຂີ່ ອີ 1992 ກ່ຽວກັບການຈັດຕັນ ແປງປັນເນື້ອທີ່ດິນໃຫ່ມວນີດທີ່ການພະນວນີດນິນນາຍ ໂດຊື່ງຈາກການໃຫ້ລັມຈາກໂອງການຈີນຈະປະທານແດດ ເຫວັຍບັກ

 ลิว?ฝกาบทอกการบุ๊ลที่บุทธบิกตปิกทำทาบทะลิกาดว่าปอยกุ้มลาฏกลายธาบททะที่กำ ปาไข้เพื่อวิสทเลย.

- รูมจะกะรงวงกับผู้ถูก:

- ຄວງກ້ວາງ ≈ 100 ນ

.~ ຄວາ ອາວ = <u>ຂຄາ</u>\_ ນ<mark>ດ</mark>

ສະນິນທາງເຈົ້າເພິ່ງງຈຳພານ ແລະ ກະນະນະເນກກະຕິກຳ- ຢ່າໄດ້ເນື່າງ ຈຳໄດ້ເຮັດຍັນ ທຶກນອນກມາຍ ສະກິນທີ່ໄດ້ ເພື່ອເປັນມີການ ການກົງມີຄິດຕົນແລດ ແລະນຳໃຊ້ທຳການສະລິດຕົ້າປ

นิสาคม การับนี้ ... 55 147.22.

ราเรารัฐกับและกลง การกา

<u> ครั้งเมือง - ครั้งกร้ายก</u>

72,76/2 6

ໃຊ້ປະນະວົງ

ສາຄາດສຸນອີດີດ ປະການທີ່ປະໂຕ ປຸຈາຈິນລາດ ສິນຕິທາບ ເຄກະລາດ ປະຊາທິປະໂຕ ເອກະທາບ ລັດທະນາຖາວານ =====00000======

຺ ຩ <u>ເອງເນືອງຈຽນວຸ</u>ຖ

ປັນໜຶ່ນສະບະນຸດທີ່ດີນີ້ໃຕ້ ເຫນະນຸດທີ່ດີນະກົດ ປັນໜຶ່ນສະບະນຸດທີ່ດີນູ້ເຫນະນຸດທີ່ດີນະກົດ ປັນນຳນາດີ , ຕາແຂງ , ການົກຂຽນ, ເນືອງຈຳພວນ

- ກຸ່ສິງການນະຕິກິກລິງຂອງເຈົ້າເນື່ອງຈຳພວນຕັ້ງກັນທີ 3 ເດືອນ2 ຢີ 1992 ກ່ຽວກັບການຈັດກັນ ແນ້ງປັນເນື້ອທີ່ດິນໃຫ່ນຸດທີ່ອຸທິດແທນເນື້ອສີດີບນ່າເກົາຊື່ງຈະຖືກນ້ຳຖຸລັນຈາກໂລງການຈົນຈະປະທານຸຍອດ ຫວັນນັກ
- = ຄົງ<sup>ຈ</sup>ະໄການກວດກາຍນິດທີ່ປຸກເບີກເພື່ອທຳການທະລິດຂອງກູປ່ວຍລຸ້ນລອງຂອງພະກຸນກຸກະຊິກຳ ປາໄນເນື່ອງຈະພວນ.
- \_ ທ່ານຈາກການສຳພວດກວດກາດກັບກາດບົດ ງຕົ້ນໂດຍສິນທິເກັບການສະເສນີລາຍງານຈາກເນ ການແລະ ຈາກການສຶກສາດທົ່ງແຜນຫົດພັນລ່າຂອບດະຄຸດດັ່ງຄ່າວນີດ ງືອນໄຂໃນການບຸກດະໂກດນີ້ວທີ່ດີບຸນາ ໄດ້ ຊຶ່ງມີສວານຈຳດີປັນແກ້ຂອຍໃຊ້ວິວິດການດປັນຢູ່ການປູກຝັງລັຽງສັດ ແລະ ຮັບໃຊ້ການທະລິດສ່ວນ ໃຫ້ຍອຍງປະຊາຊົນໃຫ້ດີຂຶ້ນດີທີ່ຄອະກ້າວ

ດ້ງພົ້ນຫາງເຈົ້າເນື່ອງຈຳພວນຈິງໄດ້ເຮັດປົດບັນທຶກນອນເນິ່ງທີ່ດິນຈຳນາຫັກກໍ່ ຜູ້ ອາພາເພື່ອເປັນການທົດ ແຫນເນົ້າທີ່ພາເກົ່າ ເຈິ່ງຈະຖືກນ້ຳກ່ວນຈາກໂລງການກໍ່ລັ່ງຈົນອະປະທານຍຸດດທັລຍຸບັກ ຈຳນວນ ຂະຮັໄດ້ ລະຄວິດຈຸ່ນນີ້:

- <u>ອັກສະນະອອງເນດທີ່ດ</u>ຸກ:

- ຄວງກັລາ<u>ງ</u> = 100 ມ

= ຄວງ ຢາດີ = 200 ນ

- ผูน เนียนที่การ : .....สา. พาล์ พาล์ พาล์

ສະນັ້ນທາງເຈົ້າເນື່ອງຈຳພອນ ແລະ ລະນະພະແນກກະສິກຳ- ປາໄນ້ເນື່ອງ ຈຶ່ງໄດ້ເຮັດບັນ ໜຶກນວບກນາຍ ສະນັບນີໄວ້ ເພື່ອເປັນລັກການ ອັດນຫັງນີລີດລິຍຫລດ ແລະນຳ?ຈັໜຳການພະລິດຕົ້ໄປ .

ที่ ชายคม , วันที่ ....ร. 12/7.2.

🗸 <u>เราะบิกา 🖰 เนิกกล้าผลเ</u>

ຊູ ໃຊ້ປະກະວຸປ

หาการบรรีก เปลาทั้งโรโต ปลุกจินลาล พีบที่บาย ออทะลาด ปะจาที่ปลาด ตอบะนาย ถักทุะบากาอกุบ =====00000

637611979%!!Q!

- ອີງຕາມມະຕິຕິກອີງຂອງເຈົ້າເນືອງຈຳພວນສົ່ງງັນທີ 3 ເດືອນ2 ຟີ 1992 ກ່ຽວກັບການຈັດຄັນ ເ ແປງປັນເນື້ອທີ່ດິນ ໃຫ່ມູດຄືວທິດແທນເນື້ອທີ່ດິນນາເຄົາຊຶ່ງຈະຖືກນ້ຳກຸວັນຈາກໂຄງການຈົນລະປະທານພອດ ຫວັນບັກ
- ລີງໃສ່ການກວດກາເນື້ອທີ່ປຸກເມີກເພື່າທຳການທະລິດອອງານ່ວຍລຸ້ນລວງອອງປະກຸນກຸກະສິກຳ ປາໄມ້ເນື່ອງຈຳພວນ.

ດັ່ງກັນຫາງເຈົ້າເນື່ອງຈຳພອນຈີງໄດ້ເຮັດບົດບັນຫົກນອບເນິດທີ່ດິນ<sup>ຈ</sup>າກ້ນ<sup>ຈ</sup>ກັດກໍ່ ເພີ້ / ເລົ້າ ປະຊາຈົນບ້ານໂນບນາດີ ເຕາແສງ ເນານົກຄວັນເລື່ອງຈຳພານເພື່າເປັນຄານຫົດ ແຫນເນິດທີ່ທາດກຳ ເຊິ່ງຈະຖືກນ້ຳຖືວັນຈາກໂລງການກໍ່ລັງຊົນຂະປະທານຍຸດດທ້ວຍບັກ ຈຳນວນ 2 ຣ/ຕ ລະຄອດລຸ່ນນີ້:

- อักสุรกรอง เรเลยเล่า - อักสุรกรอง เกลยเล่า

- ຄວງກິລາງ = 100 ນ

ສະນັ້ນທາງເຈົ້າເນຶ່ງງຈຳພອນ ແລະ ລະນະປະກຸນກາະສີກຳ- ปาໄມ້ເນື່ອງ ຈຶ່ງໄດ້ເຮັດຍັນ ໜຶ່ນນອບຫນາຍ ສະພັບນີໄວ້ ເພື່ອເປັນວັກການ ຍ້ານທັງນີໂດຈີນທອດ ແລະນຳໃຈ້ໜຳການພະລິດຕົ້ໄປ

m 4 miny , 50m ... 5 4 /7.2.

... <u>เร็กเกิด - เรือกรกแก</u> เมษายายาย

1 sinch

ດື້ ໄຊຊະນະວົງ

, ສະຫາລະບະລັດ ປະກາທີ່ປະໄຕ ປະກາວົນລາວ ຈັນເພາບ ເຄກະລາດ ປະຊາທິປະໂຕ ເຄກະພາບ ລັດທະນາກາລອນ =====00000======

<u> เลาเม็กๆคำผอบ</u>

ວັນທຶກນອຍເບລະຕີດິນໃຈນໍທີ່ຕາເທນເນລທີ່ດິນເກົາ ຢ້ານໃນນນາດີ ເຕາແສງ ເນານົກຊຽນ, ເນືອງຈຳພວນ

- ສິງຕາມນະຕິຕິກລິງຂອງເລົ້າເນືອງລຳພວນລິງ ນີ້ທີ 3 ເດືອນ2 ຟີ 1992 ກ່ຽວກັບການຈັດຄັນ ແປງປັນເນື້ອທີ່ດີນ ໃຫ່ນເພື່ອທີ່ດາເຫນເນື້ອທີ່ດີນບາເກົາຊື່ງຈະຖືກນ້ຳກຸດັນຈາກໂຄງການຈີນລະປະທານພອດ ຫລັຍບັກ
- ອີງ" ຟາການກວດກາຍນິ້ອທີ່ທຸກຍນິກເພື່ອທຳການຜະລິດຂອງກນ່ວຍຄຸ້ມຄວງຂອງພະແນກກະສິກຳ ປ່າໄນ້ເນື່ອງຈຳພວນ.
- ທ່ານຈາກການສຳຫລດກວດກາດກັບກາດບໍ່ດີບັດງຕິນໂດຍສິນທີ່ເກັບການປະເທນີລາຍງານຈາກເນື້າ ການແລະ ຈາກການສຶກສາດທົ່ງແທນຫຼືດຫຼັນຈຳຂວນດຂດດັ່ງກ່າວນີ້ດຽວປາຂ<sup>9</sup>ນການບຸກເທີກດນິດທີ່ດິນນາ ໄດ້ ຊຶ່ງມີສວານຈາດມັນແກ້ໄຂຈັບໃຈ້ອີວິດການເປັນປູ່ການປູກຝັງລັ້ຽງສັດ ແລະ ຮັບໃຊ້ການທະລິດສ່ວນ ໃຫ້ຍຂອງປະຊາຊົນໃຊ້ດີຂຶ້ນເທື່ອລະກາລ .

ກ້ຽນນຫາງເຈົ້າເນື່າງຈຳພອນຈີງໄດ້ເຮັດຍົດບັນທຶກນອນເນື້ອທີ່ດິນຈຳນາ ເພື່ອງຈຳພອນເພື່ອເປັນການທົດ ແຫນເນົ້າທີ່ທາດກາ ເຊິ່ງຈະຖືກນ້ຳຖວັນຈາກໂລງການກໍ່ສ່າງຊີນລະເປະທານຍອດຫ້ວຍບັກ ຈຳນວນ 2 ຮ/ກ ລະຄອດລຸ່ນນີ້:

- <u>จักสะบะออาณอดีก</u>บ:

- คอาทีถาก	=	100	n,
- ຄວງ ຢາວ ຊີ່ ຄຸ້ມ	. = 	200	υ 4
- คอๆ ชาจ เติบก คิดทับ: ได้กิกทับ:		22.	1

ສະນັ້ນທາງເຈົ້າເນົ້າງຈຳພອນ ແລະ ລະຫະນະເບກກະສິກຳ- ປາໄຊ້ເນືອງ ຈຶ່ງໄດ້ເຈັດບັນ ທານອບກນ່າຍ ສະນັບນຳວັ ເພື່ອເປັນວັກການ ນ້ອນກັງນີ້ຈິດພື້ນຫລຸດ ແລະນຳ?ຈັທຳການສລິດຕົ້ໄປ ເ

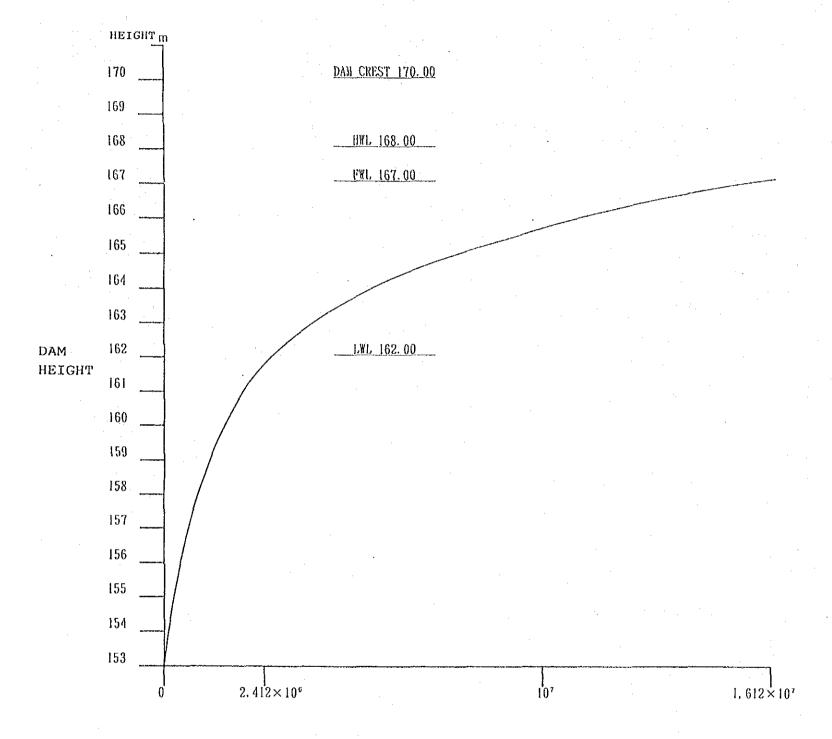
3 Hydrological Data Monthly, Rainfall
Savannakhet (1967 - 1989)

YEAR	JAN	FEB	MAR	۸PR	MΛΥ	JUN	JUL	AUG	SEP	OCT	NOV	DEC	TOTAL
1967	0.0	0.0	1.7	71.2	151.3	138.9	161.7	131,7	360.3	13.6	0.3	0.0	1031
1968	0.0	0.0	81,8	22,2	113.4	161.7	129.3	42.7	405.8	57.5	0.0	0.0	1014
1969	0.0	12.8	48,5	76.2	201.7	113.3	367.8	238.3	331.5	24.3	0.4	0.0	1415
1970	0.0	0.5	78.0	83.3	212.3	282.6	200.8	368.9	97.4	22,7	0.0	0.0	1347
1971	0.0	49.4	39.5	93.7	110.1	318.0	340.8	166.4	231.7	54.0	0.0	12.2	1416
1972	0.0	42.4	27.6	90.3	68.3	372.6	347.0	377.1	184.4	168.3	0.6	0.0	1679
1973	0.0	0.0	6.4	68.7	154.3	158.6	194.6	221.3	183.0	24.2	0.0	0.0	1011
1974	2.5	0.0	7.9	128.4	67.5	233.1	272.9	572.2	200.1	27.5	0.7	0.0	1513
1978	0.3	37.5	31.3	13.9	217.6	396.2	305.1	329.2	114.1	48.6	0.0	9.0	1494
1976	0.0	9.6	32.0	145.7	111.6	140.0	289.3	339.0	346.0	206.2	3.8	0.0	1623
1977	2.0	0.0	8.0	81.9	43.1	67.5	117.0	341.6	401.6	5.3	0.0	0.0	1068
1978	0.0	8.8	110.6	28.9	175.0	395.2	271.1	419.9	253.6	2.8	0.0	0.0	1666
1979	0.0	8.0	0.0	99.3	131.5	411.7	88.9	242.4	211.9	0.0	0.0	0.0	1194
1980	0.0	10.7	32.0	122.8	131.4	254.4	249.1	104.6	545.4	170.1	14.3	0.0	1635
1981	0.4	20.6	26.7	93.2	222.4	412.0	229.7	202.6	55.9	86.1	17.4	0,0	1367
1982	0.0	1.0	25.1	60.7	139.8	210.2	58.8	453.1	331.7	166.4	24.6	0.0	1481
1983	4.7	1.4	0.0	78.1	156.4	287.5	67.4	403.9	145.9	176.8	0.0	0.0	1322
1984	0.0	0.0	50.2	146.8	186.4	285.5	255.8	415.4	183.5	129.5	0.0	0.0	1663
1985	36.6	5.0	43.1	49.3	86.1	444.2	118.5	374.3	121.3	128.6	0.0	0.0	1407
1986	0.0	0.0	0.0	123.1	277.3	259.9	158.8	315.9	128.0	107.4	21.9	0.5	1393
1987	0.0	8.3	15.7	40.7	127.7	386.5	247.9	336.6	227.1	63.6	0.0	0.0	1454
1988	0.0	0.4	6.3	72.8	197.5	158.4	164.6	307.9	43.4	189.5	0.0	0.0	1141
1989	0.0	0.0	95.2	103.9	119.2	225.8	234.1	411.6	150.3	148.6	0.0	0.0	1489
	2.0	9.4	33.4	82.4	148.0	266.0	212.8	309.6	226.5	87.9	3.7	0.6	1384

## Monthly, Rainfall Xeno (1961 - 1988)

YEAR	JAN	FEB	MAR	APR	MAY	אטנ	JUL	AUG	SEP	OCT	NOV	DEC	ANNUAL
1961	0.0	0.0	17.9	32.2	355.8	630.0	178.1	466.1	477.2	146.4	0.0	0.0	2304
1962	0.0	0.9	24.2	58.9	104.6	174.8	402.2	458.8	356.8	27.6	7.8	0.0	1617
1963	0.0	0.0	26.3	14.4	175.1	520.6	272.1	322.2	169.0	44.3	15.7	0.0	1560
1964	0.0	0.0	45.5	82.3	378.8	354.4	142.2	302.4	517.5	122.2	2.8	0.0	1948
1965	0.0	18.5	107.9	108.8	184.7	447.7	301.4	421.5	207.9	108.3	0.0	0.0	1907
1966	0.0	3.6	45.1	195.3	339.2	123.0	268.6	321.3	123.9	25.9	3.9	20.0	1471
1967	0,0	0.0	8.5	125.1	196.8	194.5	411.3	167.1	438.0	10.2	3.8	0.0	1555
1968	0.0	12.7	27.2	65.9	139.0	234.4	110,7	226.2	344.9	31.0	0.0	0.0	1192
1969	4.0	0.0	40.9	39.5	229.1	146.2	520.0	157.3	285.5	48.0	0.0	0.0	1471
1970	0.0	18.1	8.9	90.3	215.2	318.0	156.7	427.7	183.1	27.6	0.0	0.0	1446
1971	0.0	87.5	13.0	37.4	129.1	417.1	330.1	258.5	193.2	41.3	0.7	14.1	1522
1972	0.0	34.9	68.6	106.0	90.9	252.3	614.8	776.2	196.3	321.6	0.2	0.0	2462
1973	0.0	0.0	0.0	37.4	409.9	733.1	818.9	501.9	682.8	67,6	0.0	0.0	3252
1975	12.6	60.4	93.7	49.5	811.9	256.6	269.9	399.8	187.9	215.7	0.0	0.0	2358
1976	0.0	2.0	86.7	121.0	104.5	141.0	436.3	317.9	232.1	55.9	0.0	0.0	1497
1978	0.4	8.0	52.0	41.2	115.5	274.9	232.4	678.0	386.3	3.5	0.5	0.0	1786
1979	0.0	0.0	0.0	55.4	260.8	246.4	86.4	323.9	250.7	0.0	0.0	0.0	1224
1980	0.0	3.7	57.0	44.0	197.7	249.8	220.5	145.3	840.9	77.8	4.4	0.0	1641
1981	0.0	21.2	27.0	64.8	224.2	397.7	242.3	395.5	40.3	147.5	8.8	0.0	1569
1984	0.0	0.0	8.8	68.7	138.6	284.8	372.8	563.2	122.6	193.1	34.5	0.0	1787
1985	17.1	5.0	14.5	49.2	116.0	323.8	203.9	303.0	100.6	118.6	0.0	0.0	1252
1986	0.0	0.0	28.4	39.2	272.7	386.2	189.3	343.5	96.4	145.9	0.0	0.0	1502
1987	0.0	11.9	10.0	26.6	152.9	213.2	346.8	211.7	216.9	45.3	1.9	0.0	1237
1988	0.0	4.0	3.8	131.1	168.3	286.1	179.9	502.6	53.2	154.8	0.0	0.0	
1989	0.0	0.0	133.6	190.8	145.7	100.9	445.3	268.7	287.8	134.4	0.0	0.0	1707
1990	5.8	158.3	14.8	41.9	111.3	379.3	361.8	369.4	270.2	77.7	4.9	0.0	1795
	1.5	17.1	37.1	73.7	221.9	311.1	312.1	370.4	271.6	92.0	3.5	1.3	

# 4 DAM CURVE LINE OF WATER STORAGE DAM STORAGE CAPACITY



Dam	Reservoir	Mean Reservoir	Capacity	Cumulative	Used water, Dead water
Height (m)	yrea (m <sub>s</sub> )	Area (m²)	(㎡)	Cabacteh (m,)	(㎡)
167.00	4, 708, 000	4, 248, 000	4, 248, 000	16, 286, 000	
100.00	2 700 000	3, 426, 000	3, 426, 000	19 000 000	Effective storage
166. 00	3, 788, 000	3, 420, 000	<b>ე, 420, 000</b>	12, 038, 000	capacity
165. 00	3, 065, 000	2. 704. 000	2, 704, 000	8, 612, 000	16, 286, 000
-					- 1,745,000
164. 00	2, 343, 000	2, 006, 000	2, 006, 000	5, 908, 000	= 14,541,000
163. 00	1, 669, 000	1. 332. 000	1, 332, 000	3, 902, 000	
100.00	1, 000, 000	1, 000, 000	1,002,000	0, 302, 000	
162. 00	995, 000	825.000	825, 000	2, 570, 000	
161.00	655, 000	485, 000	485, 000	1 246 000	· .
101.00	033, 000	469,000	469, 000	1, 745, 000	Dead water
160.00	315,000		ገ	1. 260. 000	
					1, 745, 000
159. 00		·			•
158. 00					
100.00					
157. 00			1, 260, 000		
ice ön			}		
156. 00					
155. 00					•
154. 00					
153, 00	,				

WATER STORAGE CAPACITY (M3)

H. BAK DAM CURVE LINE OF WATER STORAGE

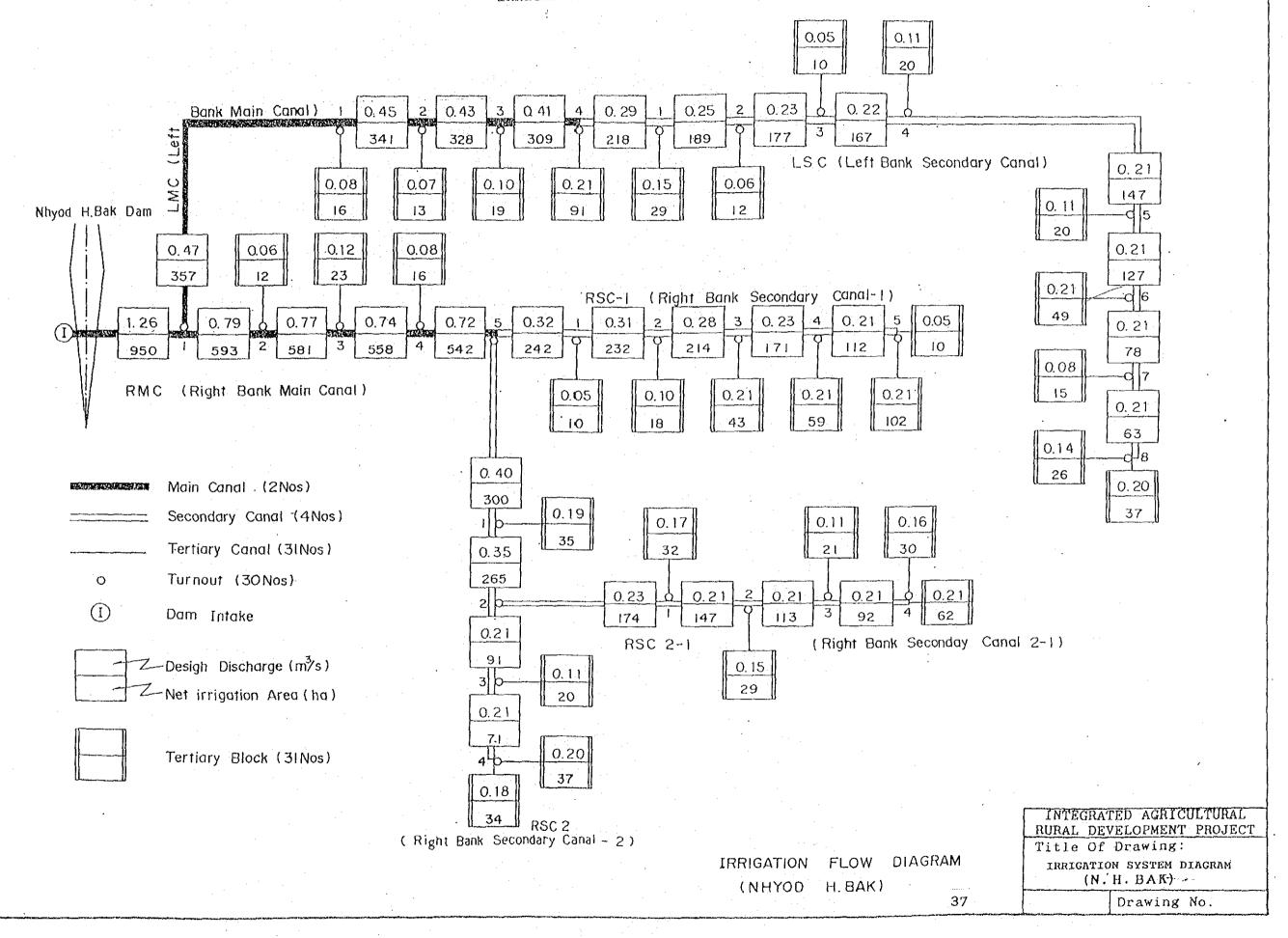
TABLE OF WATER STORAGE (M³)

H. BAK DAM

## 5 WATER BLANCE (H. Bak Dam)

Year (1961~1990) Nhyod II. Bak

		Jan	Feb	Mar	Λpr	May	Jun	Jul	Aug	Sep	Oct	Nov	- Dec	Total	Remarks
(1)	Water Requirement (Rainy Paddy) (mm/month)	<u>-</u>				-	302	28			108		-	438	3
(2)	Water Requirement (Dry Paddy) (mm/month)	421	370	348		-	. · ·	-	-	-	<u>-</u> :	-	170	1, 345	5
(3)	Waler Requirement (Dry Crop) (mm/month)	136	291	177	72	0		_	_	-	-		_	676	
(4)	Water Requirement (Rainy Paddy) (ที/ha)	_	<del>-</del>	<b></b>		_	3, 020	280	-		1. 080		-	4. 380	
(5)	Water Requirement (Dry Paddy) (เน้/ha)	4, 210	3, 700	4, 850		<del>-</del>	-	<u>-</u>		<u>-</u>	-	-	1, 760	14, 820	
(6)	Water Requirement (Dry crop) (iil/ha)	1, 360	2, 910	1,770	720	·	-	<del>-</del> .	-		-	_		6. 760	
(7)	Total Water Requirement = $(4)+(5)+(6)$	5, 570	6,610	6, 620	720		3. 020	280	-		1.080		1.760	25, 960	
(8)	Water Requirement (Rainy Paddy) 950ha (เช้)	_	. 1	-	<u>-</u>	-	2, 869, 000	266, 000	-		1, 026, 000		_	4, 161, 000	
(9)	Water Requirement (Dry Paddy) 550ha (นี)	2, 315, 500	2, 035, 000	2, 667, 500									968, 000	7, 986, 000	
(10)	Water Requirement (Dry Crop) 400ha (mi)	544, 000	1, 164, 000	708, 000	288, 000									2. 704. 000	
(11)	Total Water Requirement =(8)+(9)+(10)	2, 859, 500	3, 199, 000	3, 375, 500	288, 000		2, 869, 000	266, 000			1, 026, 000		968, 000	14, 851, 000	
(12)	Evaporation (mm)	77mm	84mm	110mm	113mm	109mm	92mm	91mm	88mm	83mm	88mm	81mm	70mm	1.086mm	Pan Evaporation×75%
(13)	Evaporation Loss (m³)	207. 900	226, 800	297, 000	305, 100	294, 300	248, 400	245, 700	237, 600	224. 100	237, 600	218, 700	189. 000	2, 932, 200	Area of Mean Water Level 2.7km
(14)	Percolation Loss (m)	135, 700	135, 700	135, 700	135, 700	135, 700	135, 700	135. 700	135, 700	135, 700	135, 700	135, 700	135, 700	1, 628, 400	Total Capacity 16, 286, 000×10%
(15)	Total Losses (ni)	343, 600	362, 500	432, 700	440, 800	430, 000	384, 100	381, 400	373. 300	359, 800	373, 300	354. 400	324, 700	4, 560, 600	
(16)	(11)+(15) (n³)	3, 203, 100	3, 561, 500	3, 808, 200	728, 800	430, 000	3, 253, 100	647. 400	373. 300	359, 800	1, 399, 300	354, 400	1, 292, 700	19, 411, 600	
(17)	Inflow (m³)	19, 000	215, 000	467, 000	929, 000	2, 797, 000	3, 921, 000	3, 934, 000	4, 669, 000	3. 423. 000	1. 159, 000	44. 000	16, 000	21, 593, 000	28. 3km²×35% 、2. 7km²×100%
(18)	Monthly Water Blance (First year) (ni)			· ·			3, 536, 900	7, 089, 500	11, 385, 200	14, 448, 400	14, 541, 000	14, 230, 600	12, 953, 900		Effective Capacity 14,541,000 m
(19)	Monthly Water Blance (second year)	9, 769, 800	6, 423, 300	3, 082, 100	3, 282, 300	5, 649, 300	6, 317, 200	9, 603, 800	13, 899, 500	14. 541. 400	13, 721, 200	13, 411, 200	12, 134, 100		,
(20)	Intake Discharge (m/s)= {(11) ÷ day/month} ÷ second/day	1,068	1, 322	1, 260	6. 333	0	1.11	0. 099	:	_	0. 303	-	0. 560		



(I) Intake Diversion No.5 (H. Xay weir) Z—Design Dischage (111/s) LMC No.5 (Left Bank Main Canal No.5) -Net Irrigation Area (ha) Tertiary Block (19Nos) 

RMC No. 5

(Right Bank Main Canal No.5)

TOTAL DESIGNATION OF THE PARTY 
Main Canal (3Nos)

Turnout (16Nos)

Tertiary Canal (19Nos)

INTEGRATED AGRICULTURAL RURAL DEVELOPMENT PROJECT

Title Of Drawing:

IRRIGATION SYSTEM DIAGRAM (NAM. PHOU)

Drawing No.

## ▼ Irrigation Water Requirement (Paddy Rice)

Year (1961~1990) Nhyod H. Bak

		7	. 1	T	·[	<del></del>	<del></del>	<del></del>	·	<u> </u>	Ţ	<del></del>	
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct_	Nov	Dec	Remarks
	PADD	y (dry sea	SON)				PADDY (	RAINY SEAS	SON)		The same of the sa		
CROPPING PATTERN	Nurser	y	550ha			Nurse	гу `,	95(	)ha	Drai	h		
								· • · · · · · · · · · · · · · · · · · ·		·,	; <u> </u>		
(1)Potential Evapotranspiration (ETo) (m m∕month)	146	1 4 3	189	192		138	1 4 3	130	135	152		_	
(2)Crop Coefficient(kc)	1.1	1.1	1.25	1.0		1.0	1.1	1.1	1.05	1.05		-	
(3)Crop Evapotranspiration(Efcrop)=(1)×(2 (mm/month)	161	157	236	192	<b></b>	152	157	143	142	160		-	
(4)Percolation (mm/month)	9 3	8 4	9 3	9 0	<u>-</u>	4 7	4 7	47	15	47		-	
(5)Effective Rainfall (mm/month)	0	1 5	3 3	6 4	183	220	220	235	180	7 5			
(6) = (3) + (4) - (5) (m m/month)	254	2 2 6	296	2 1 8	_	0	0.	0	0	1 3 2			
(7)Area Factor	0. 640	1.00	1.0	0	<u></u>	0. 042	0. 933	1.000	1.00	0.50	0		
$(8) = (6) \times (7) \qquad (m  m / month)$	163	2 2 6	296	0	anya :	0	0	0	0	6 6	0	_	
(9)Puddling water=180mm (mm∕month)	8 4					165	1 5		:			9 6	
(10)Nursery Water=420mm (mm∕month)	1 0			. :	<del>-</del>	19	2					1 1	Area of Nursery=5%
	257	2 2 6	296	0	_	184	17	0	0	6.6	0	107	
12)Water Requirement (mm/month) =(11)/Irrigation Efficiercy(EF)	421	3 7 0	485		-	3 0 2	2 8			1 0 8	,	176	
(13)Unit Water Requirement ( @/sec/ha)	1.57	1.53	1.81	· <u>: :</u>		1.17	0. 105		_	0. 403		0.97	

# 7—≥ Irrigation Water Requirement (Dry Season Field Crop)

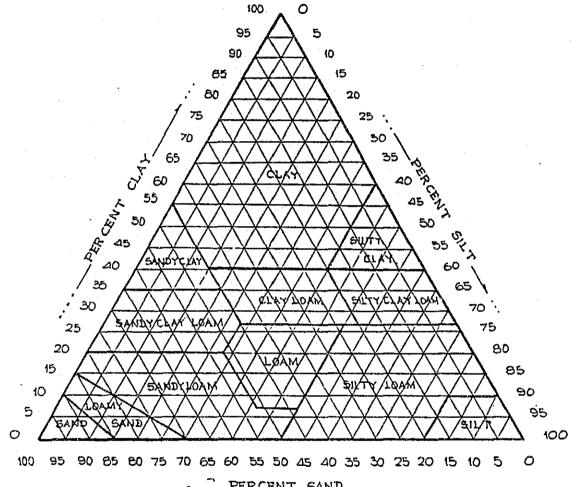
Year (1961~1990) Nhyod II. Bak

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	0ct	Nov	Dec	Remarks
	Dry	, Scason Fi	eld Crop			·		·	•	- <b></b>	<u> </u>		
		4	100ha										
(1)ETo (mm/month)	146	143	189	192	171								
(2)KC	1.0	1.05	0.60	0.6	0.6								
(3)ETcrop=(1)×(2) (m m / month)	146	150	113	115	103								
(4)Effective Rainfall (mm/month)	. 0	1 3	3 0	5 6	1 2 8								
(5) = (3) - (4) (m m/month)	146	137	8 3	5 9		:							
(6)Area Factor	0. 435	1.0	1.0	0.58	0.5								
(7)Net Water Requirement=(5)×(6) (mm)	64	1 3,7	83	3 4	0								
(8)Water Requirement=(7)/EF (mm/month)	136	291	177	7 2	0						-		
(9)Unit Water Requirement (0/sec/ha)	0, 51	1.20	0.66	0.28	. :								
			. : -						:				

7 — 3 Irrigation Water Requirement (Rainy Season Paddy Dry Season Field Crop)

Year (1961~1990) II. Xay

		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	0ct	Nov	Dec	Remarks	<del></del>
		I	FIELD CROP	(DRY SEASO	(אכ			PAI	DDY (RAINY	SEASON)					
							Nursery				1				
			50ha					41	0ha		Prain	· .			
(INT.	( (	1.4.0	1.46	1.00	1.00								<u>.                                    </u>		
(1)ETo	(mm/month)	146	1 4 3	189	192	<del>-</del>	138	1 4 3	130	1 3 5	152				
(2)KC		1.00	1.05	0.60	0.60		1 0	1.1	1 1	1.05	1.05		_		
(3)ETcrop=(1)×(2)	(mm/month)	146	150.2	113. 4	115. 2	· ·	138	157	143	142	160	<del>-</del> .	_		
(4)Percolation	(m m/month)	—	_	_	_		4 5	4 7	47	45	47	· ·			
(5)Effective Rainfall	(m m/month)	0	4	2 0	6 2		205	178	2 2 0	180	7 5	<del>-</del> .			:
(6) = (3) + (4) - (5)	(m m/month)	1 4 6	146. 2	93. 4	53. 2	<del>-</del>	. 0	2 6	0	7	1 3 2	<del></del> .			<u> </u>
(7)Area Factor		0. 671	1. 000	1. 000	0. 340	·	0. 071	1.000	1. 000	0. 836	0.5	<del></del>	, <u> </u>		
$(8) = (6) \times (7)$	(m m/month)	9 8	146.2	93. 4	18	<b>-</b>	0	261	0	7	6 6				
(9)Puddling Water=180mm	(m m/month)	_	_			. <del>-</del>	180	_	·	· 	<u>-</u>	0	_		
(10)Nursery Water=420mm	(m m/month)	· <u></u>		<del>-</del>	· _	_	2 1					0	<b>-</b> .	Area of Nursery=5%	
(11)Net Water Requirement=	=(8)+(9)+(10) (m m/month)	98	146. 2	93. 4	18	<del></del>	201	2 6	0	7	6 6	0			
(12)Water Requirement=(11	)/EF (m m/month)	209	3 1 1	199	3 8	-	3 3 0	4 3	0	1 2	108	0	<del></del>		
(13)Unit Water Requirement	( ½ /sec/ha)	0.78	1.29	0.74	0.15		1.27	0 . 1 6	0	0.04	0.04	0			



\_PERCENT SAND\_\_\_..

	_005 <sup>mm</sup>	O5 <sup>mm</sup>		mm	
CLAY	SILT	FINE 5.	COARSE	GRAVEL	
		<del></del>	5 mm		

PERCENTAGES OF CLAY (BELOW 0,002 mm) SILT (0,002-0,05 mm) SAND (0.05 - 2,0 mm) IN THE BASIC SOIL TEXTURAL CLASSES

8 SOIL TRIANGLE OF THE BASIC SOIL TEXTURAL CLASSES