

**PREVENTION AND PROMOTION ACTIVITIES-BASED  
COSTING OF PRIMARY CARE UNIT: A CASE STUDY OF  
SALALUMDUAN, SAKAEO PROVINCE, THAILAND**



**A THESIS SUBMITTED IN PARTIAL FULFILLMENT OF  
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Thesis  
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was submitted to the Faculty of Graduate Studies, Mahidol University  
for the degree of Master of Primary Health Care Management

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March 8, 2004



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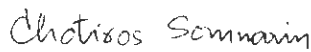
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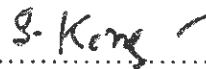
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Wannaporn Sopanna

PREVENTION AND PROMOTION ACTIVITIES-BASED COSTING OF PRIMARY CARE UNIT: A CASE STUDY OF SALALUMDUAN, SAKAEO PROVINCE, THAILAND

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ABSTRACT

The aim of this study was to identify the cost of prevention and promotion (P&P) activities, total cost and unit cost according the activity-based costing hierarchy in Salalumduan Primary Care Unit (PCU).

This study was a cross-sectional study and the three principles used in the Activities-Based Costing (ABC) were activity analysis, activity costing and performance measurement. An activity dictionary was written at the first stage of the study to analyze activities that were used for the self-administered questionnaire. Data collection on information related to the study using this questionnaire was conducted from the 15<sup>th</sup> to 29<sup>th</sup> of December 2003. Moreover, the data collections regarding ABC were collected from financial records of FY 2003 from the 1<sup>st</sup> to the 29<sup>th</sup> of January 2004. The performance measurement was used to calculate the unit cost and categorize according to the ABC hierarchy.

The results of this study showed that the P&P cost of Salalumduan PCU in the FY 2003 was 1,186,497.59 baht. The government funding of P&P capital cost was 927,740.93 baht and labor cost within the P&P activities was 636,681.59 baht. The operating cost was 101,055.86 baht and the capital cost was 167,586.81 baht. The Non- UC budget was 22,416.67 baht and the amount from other organizations funding support was 258,756.66 baht. This study also described in detail how the P&P budget (recurrent cost, direct cost, indirect cost and total cost) is distributed over the different health activities and sub-activities. The accepted facility sustaining level cost was 22.43% according to this study. The conference and meeting activity was the highest cost among all activities. The lowest unit cost was in the sanitation and environmental health services sub-activity which accounted for 2.18 baht/household. The total cost and labor cost in this study were compared to the findings of previous studies and the Thai national average.

The implications of this study are to standardize the recording system for effective implementation of ABC among all PCUs in Thailand in the near future and to use as predictive information for planning and managing ABC at the primary care level.

KEY WORDS: ACTIVITY BASED COSTING, PREVENTION AND PROMOTION,  
PRIMARY CARE UNIT

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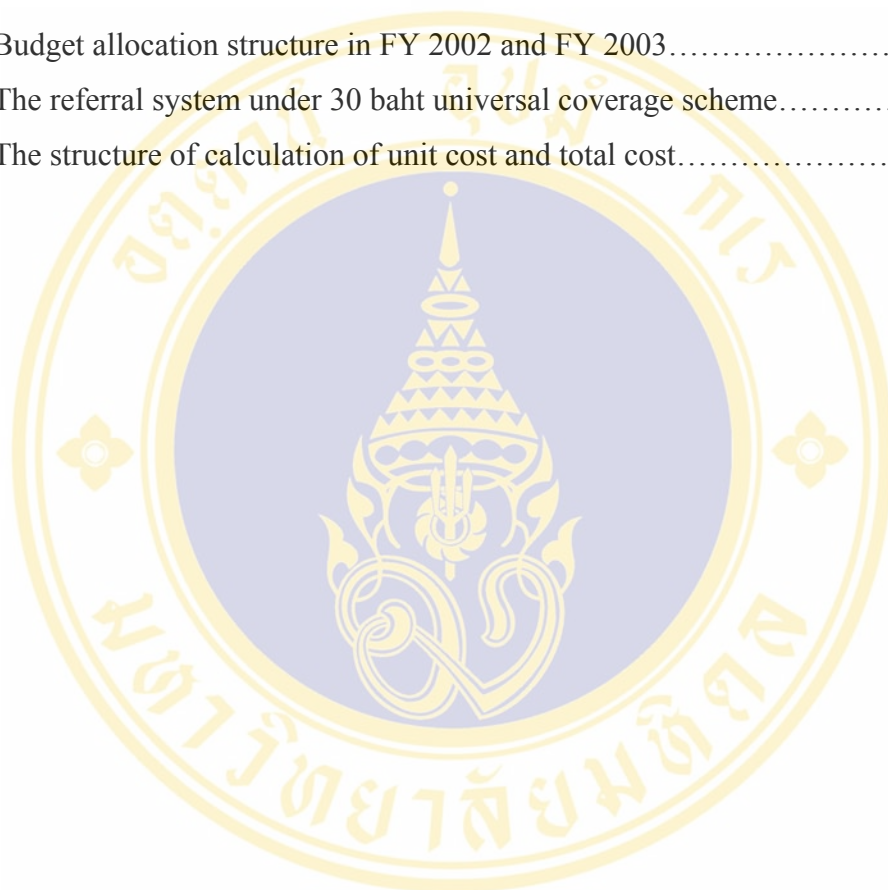
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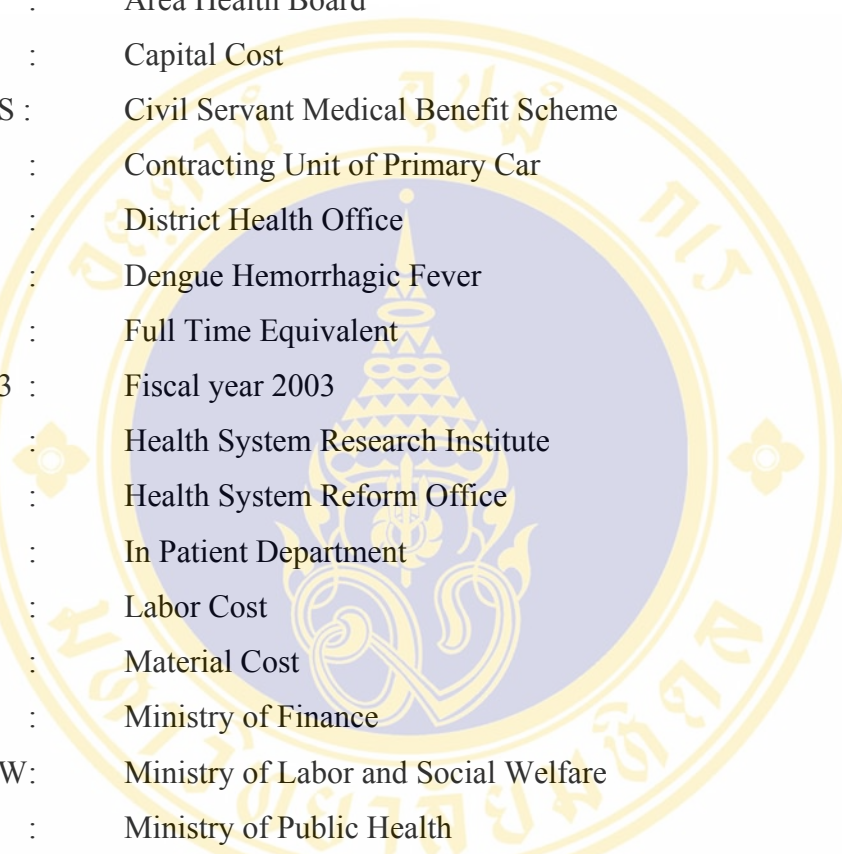
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## LIST OF ABBREVIATIONS



ABC	:	Activity-based costing
AHB	:	Area Health Board
CC	:	Capital Cost
CSMBS	:	Civil Servant Medical Benefit Scheme
CUP	:	Contracting Unit of Primary Car
DHO	:	District Health Office
DHF	:	Dengue Hemorrhagic Fever
FTE	:	Full Time Equivalent
FY2003	:	Fiscal year 2003
HSRI	:	Health System Research Institute
HSRO	:	Health System Reform Office
IPD	:	In Patient Department
LC	:	Labor Cost
MC	:	Material Cost
MOF	:	Ministry of Finance
MOLSW	:	Ministry of Labor and Social Welfare
MoPH	:	Ministry of Public Health
NHSRC	:	National Health System Reform Committee
OPD	:	Out Patient Department
ORD	:	Office of Accelerated Rural Development
PAO	:	Provincial Administrative Organization
PCU	:	Primary Care Unit
PHC	:	Primary Health Care
PHO	:	Provincial Health Office
P&P	:	Promotion and Prevention
SSS	:	Social Security Scheme
TAO	:	Tambon Administrative Organization
VHV	:	Village Health Volunteer
WHO	:	World Health Organization

# CHAPTER I

## INTRODUCTION

### 1.1 Rationale and justification

Since the concept of Primary Health Care (PHC) was defined and given as an international recognition at the Alma-Ata declaration in 1978, primary health care has become the main focus for the promotion of the worlds of health (1). The vision of PHC elaborated at Alma-Ata grew out of a synthesis of ideas and experiences from various geographical regions and marked the dawn of a new strategy to improve health of the world people (2).

One of the four principles of PHC approach is appropriate technology and cost effectiveness in relation to the available resources. The extend of redistribution of health resources according to this principle has been referred to as the “litmus test of political commitment” (3). It is an indication that a country has gone beyond merely thinking about PHC and is a seriously taking action. One difficulty lies in measuring how far the pattern of resource allocation is actually changed, is the accountability. It was found that only a few countries have an accounting system that indicates how much money is being spent on different health care functions. Establishment of such an accounting system is an initial step in the process of political commitment to reallocate resources (2).

The Thai government concerned the negligence of social and rural development that resulted in disparities of income distribution and growth. This had led to the adoption of PHC approached through the 4<sup>th</sup> National Economic and Social Development Plan (1977-1981). During the 6<sup>th</sup> to the 8<sup>th</sup> plans from 1986 to 1999, the Thai government realized that health information, health economics and health care financing would be important to use in health planning. At the end of the 7<sup>th</sup> plan throughout the 8<sup>th</sup> plan, WHO introduced Health Future Studies to the Ministry of

Public Health (MoPH) that could be used as a tool to support health policy formulation. During this 8<sup>th</sup> plan, the economic crisis occurred. The public sector reform was on the government agenda and the health sector reform was unavoidable. The purposes of this kind of reform usually are: 1) equitable distribution of public health expenditure, 2) appropriate share of public funds on health care, 3) appropriate mix of public and private spending in health development, 4) improved health status, 5) enhanced client satisfaction and 6) improved equity of access to care (4). The Thai government has presented the ninth reform in 2001, which are focuses on:

- 1) Thirty Baht Universal Health Care Policy,
- 2) Financing health care changing to capitation payment,
- 3) Health sector reform: major changes in structure and budgetary system to result-based budgeting management.

This reform has a major impact on health care system in both providing health service and financing health care system (4). The Thirty Baht Universal Health Care Policy is a new health insurance policy to expand the coverage of health care service for all Thai people under slogan “30 baht for curing every disease”. The Thirty Baht Universal Health Care policy established a real opportunity for the progress in restructuring the relationship between the Thai government and civil society to further democratizing the development process. By creating new institutions, mechanisms, accountability, equity, efficiency, quality, as well as transparency, representation and participation would be promoted (5). In 2003, Thailand has 3 public health insurance schemes: Social Security Scheme (SSS), Civil Servant Medical Benefit Scheme (CSMBS), and Thirty Baht Universal Health Care scheme (6).

Banchuin C, expressed in the “New Health Insurance Policy in Thailand” that the MoPH has set goals for improvement in 2003 (7); those are:

- 1) Emphasize more on “Health promotion and prevention”
- 2) Improve the quality of health services.
- 3) Improve the financial allocation and payment mechanism.

- 4) Improve personnel allocation to the areas of needs.
- 5) Improve the quality of management to decrease conflicts.
- 6) Improve satisfaction of personnel.

The government approved the budget for health in 2003 at 1,308.50 baht per registered person for each hospital that the MoPH had proposed a budget (6). The budget is delivered to primary care level through the Provincial Health Office (PHO) and the Contracting Unit for Primary Care (CUP).

Primary Care Unit (PCU) in Thailand serves as a referral unit at the primary level of the primary health care delivery system. Likewise, it provides support to villages for the development and strengthening of its Primary Health Care (PHC) programme, which is one of the goals for improvement in 2003 (7). The capitation budget is originally allocated to the PCU via the CUP.

Salalumduan Primary Care Unit (PCU) was the most outstanding PCU in Sakaeo Province in the year 2002. This study is collected and analyzed data on unit cost of major health services activities of Salalumduan PCU during the fiscal year 2003. The analysis of the costs of health care program is common to all forms of economic evaluation (8). The result of the study will provide information to indicate how to plan appropriate cost and resources of funding used to provide health service activities of Salalumduan PCU in the nearly future. The unit cost analysis will help the CUP and the District Health Office (DHO) to improve effective planning of resource allocation in the primary care level and the results will be used as the baseline information for comparison of the next cost analysis study of Salalumduan PCU or other PCU in future. Moreover, this study will be used as the guidelines for other provinces to implement the Activities-based Costing method to identify the PCU costs in the future.

## 1.2 Research question

1. What are the Prevention and Promotion (P&P) activities at Salalumduan PCU?
2. What are the distribution of the sources of fund allocated at Salalumduan PCU according to the capital cost and the recurrent cost?
3. What are the unit cost, batch cost, product sustaining level cost and facility sustaining level cost at Salalumduan PCU?

## 1.3 Research objectives

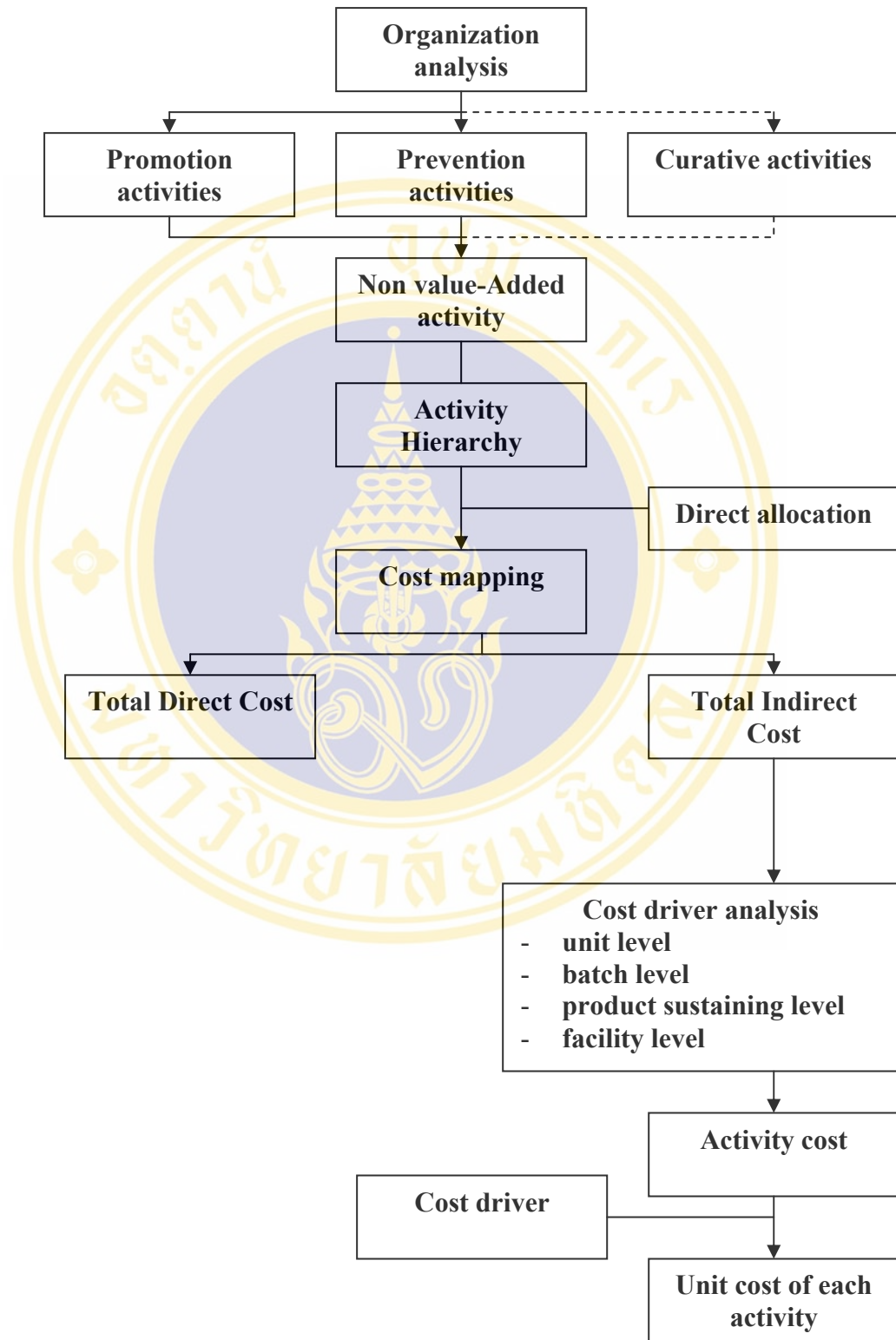
### 1.3.1 General objective

To analyze the unit cost of Salalumduan Primary Care Unit in Sakaeo Province under the Sakaeo Contracting Unit for Primary Care during the fiscal year 2003.

### 1.3.2 Specific objectives

- 1.3.2.1 To summarized and develop an activity dictionary on P&P activities of Salalumduan PCU
- 1.3.2.2 To calculate Capital cost by P&P activities of Salalumduan PCU
- 1.3.2.3 To calculate Recurrent cost by P&P activities of Salalumduan PCU
- 1.3.2.4 To calculate the Total cost by P&P activities of Salalumduan PCU
- 1.3.2.5 To record the performance measurement by P&P activities for Salalumduan PCU.
- 1.3.2.6 To calculate the unit cost of each P&P activity.

### 1.4 Conceptual framework



## 1.5 Operational definition of studied variables

This study concerns many definitions in the cost analysis jargon and the most important definitions are mentioned below.

### 1.5.1 Total cost

$$\text{Total cost} = \text{Capital cost} + \text{Recurrent cost}$$

### 1.5.2 Capital cost

The cost of building, vehicle, furniture, and equipment that have a life span of more than one year and the price is equal or more than US\$100.

### 1.5.3 Recurrent cost

The sum of labor cost and operating cost, including medical supplies cost that have a life span less than one year and the price is less than US\$100.

$$\text{Recurrent cost} = \text{Labor cost} + \text{Operating cost}$$

### 1.5.4 Building cost

The building cost is calculated from the depreciation cost in FY2003. It includes infrastructure such as roof, ceiling, floor, signboard, fence, etc. Buildings have a life span of 20 years. If a building is older than 20 years, the price is calculated at 1 baht.

### 1.5.5 Equipment cost

The equipment cost is calculated from the depreciation cost in FY2003. The equipment with a price equal or more than US\$100 has life span of 10 years.

### **1.5.6 Vehicle cost**

It refers to the depreciation cost of vehicles in FY2003. Vehicle cost is calculated from motorcycle cost, bicycle cost, car cost, 4 wheels drive cost, etc. Vehicles have a life span of 5 years and the discount rate is 20% per annum.

### **1.5.7 Furniture**

It refers to the depreciation cost of furniture in FY2003. Furniture cost is calculated from table cost, chair cost, etc. Furniture has a life span of 5 years.

### **1.5.8 Labor cost**

The labor cost is calculated by the sum of salaries, fringe benefits, house allowance, contribution of provident fund and child school fee in the FY 2003 of the Salalumduan PCU personnel.

### **1.5.9 Operating cost**

The operating cost is calculated by the sum of office supplies, drugs, vaccines, electricity, telephone, fuel, maintenance and repairing of equipment and vehicles recorded in the FY 2003. The office supplies include materials that are priced less than US\$100.

### **1.5.10 Fiscal year 2003 (FY 2003)**

The fiscal year starts on the 1<sup>st</sup> October 2002 and ends on the 30<sup>th</sup> of September 2003.

### 1.5.11 Unit cost

$$\text{Unit cost} = \frac{\text{Total cost}}{\text{Quantity}}, \text{ or } \frac{TC}{Q}$$

In this study the unit cost was categorized into four levels: unit level, batch level, product sustaining level and facility sustaining level.

### 1.5.12 Cost driver

Cost driver is any factor that causes a change in the cost of an activity. These drivers include any causal factor that increases the total costs of each activity.

### 1.5.13 Cost objective

The cost objective relates to the intention of health expenditure and determines the structure of the ABC study. The cost objective has a direct impact on ABC study.

### 1.5.13 ABC Hierarchy

The ABC Hierarchy is categorized in 4 unit level activities:

- 1) Unit level activity
- 2) Batch level activity
- 3) Product sustaining
- 4) Facility sustaining

## 1.6 Scope

This study was prepared at Salalumduan PCU from the 15<sup>th</sup> to the 29<sup>th</sup> of December 2003 to collect primary data that were used for the self-administered questionnaires to obtain the information regarding each health personnel spent time on each activity. In addition, the primary data also collected to develop for the

activity dictionary. The study was conducted from the 7<sup>th</sup> to the 29<sup>th</sup> of January 2004 to collect secondary data from various sources such as the PCU, District health Office (DHO), CUP, and Provincial Health Office (PHO). The cost analysis study focused only on the average cost and the unit cost of prevention and promotion activities conducted at Salalumduan PCU in the fiscal year 2003.

### **1.7 Limitation of the study**

- 1) This study was conducted at the Salalumduan PCU and the unit cost of this PCU under the Sakaeo CUP is not necessarily representative for other PCUs in Thailand.
- 2) The study excluded the cost of curative activities.
- 3) The accounting records of Salalumduan PCU were different from the data have been collected, so some of the data were not available.
- 4) The value added cost was excluded from calculating the costs in this study.

### **1.8 Assumptions of the study**

1. The study population included the migrant population, who were not necessarily counted in the consensus. However, PCU staff in Salalumduan already provided the services to them and these services were recorded.
2. The 30 Baht income from user fees was used in the line items of the operating cost and was calculated as the operating cost.
3. The cost of land that belongs to Salalumduan PCU was excluded from the capital cost because the land was donated by the government.
4. In ABC the labor cost was stratified into both direct costs and indirect costs. Direct costs related to the labor cost of staff who were worked on duty in the respective activity.

5. The labor cost of temporary government employee who have been working in Salalumduan PCU was calculated in the same way as those government staff.
6. The cost of furniture, materials and equipment that have a longer life span than the life span noted in the guidelines, were valued at the market price.
7. The per diems and paying in kind provided by the PCU for the Village Health Volunteers were considered as operating costs in the P&P activity.
9. The costs of exposure visits from other provinces were excluded in this study.
10. The opportunity cost of Village health volunteers were calculated on the basis of minimum wages for Sakaeo province that issued by the Ministry of Labor in 2002.

## CHAPTER II

### LITERATURE REVIEW

The literature review in this study is an out line of:

- 1) Health System Reforms in Thailand
- 2) Health insurances in Thailand
- 3) The structure of Health Service System in Sakaeo province
- 4) The importance of cost analysis
- 5) Previous studies on cost analysis
- 6) Activity-based Costing

#### **2.1 Health System Reforms in Thailand**

##### **2.1.1 What Health System Reforms have taken place in Thailand?**

When a sick person is in need of treatment or care, it is naturally the function of the health services systems to provide the necessary services in order to solve his/her health problem. If the existing health service systems cannot adequately and effectively respond to the needs of the people, it is likely that their plight would be compounded by the problems they face while seeking the services from such systems (9). Extensive health system reforms are under way in many countries. Their aim is to restructure the organization, financing, and provision of health services to achieve greater equity, efficiency, and quality using available resources. This often includes stimulation of competition and greater involvement by the private sector (10).

In Thailand, the political reform through the adoption of the Constitution of the Kingdom of Thailand B.E.2540 has explicitly declared 3 aspects of intention including health equity, the role of the public sector in providing health services and creating healthy public policy, and health decentralization to the local administrative

organization. The economic crisis during the mid-1997 had led to social, economic, bureaucratic system, and importantly the health system reforms. The Prime Minister's office Regulation on National Health system Reform was promulgated on 9 May 2000, and entrusted the Health System Research Institute (HSRI), to establish a Health System Reform Office (HSRO), as the secretariat office for National Health System Reform Committee (NHSRC) under the chairmanship of the Prime Minister. The committee's main functions include drafting a National Health Bill (which must become an Act. before July 2003), creating body of knowledge, mobilizing and strengthening civil society and media so as to support and sustain health system reform. Issues for health systems reform include philosophy right and responsibility, mechanisms and organization, health promotion, disease control and prevention, health care finance, health service accreditation, consumer protection, technology assessment, health manpower development, alternative medicine, and health research system (11, 12).

### **2.1.2 New decentralized health system**

The parliament passed the Act. on Operationalization and Decentralization in 1999, as an organic law of the new constitution adopted in October 1997. It mandated that all ministries involved, including the MoPH, draw up detailed plans to devolve their functions, facilities, and personnel to the local administration, mainly the Tambon Administrative Organization (TAO), the Municipalities, and the Provincial Administrative Organization (PAO) within 2010. It is thus clear that all government hospitals and health centers under the MoPH will be transferred to and under control of the Local Administrative Organization.

Decentralization of public service to the Local Administrative Organization is only one part of the legislation, but the more important component in the legislation is the goal to increase the proportion of revenue of the local administration from the present level of 9% of total public revenue to 20% in 2001, and 35% in 2006. Such redistribution would enable the local administration to take up active roles in providing various social services under their responsibility as

mandated in the Act. The MoPH has proposed to create the new decentralized health system with 4 important features.

1) Establishment of the Area Health Board (AHB). The AHB will be responsible for health development activities in their respective local area. Such a unit will need to have legal status in order to make decisions, not only taking an advisory role.

2) Combination of health facilities at various levels within the same AHB to form a single unit of service providers. Under this new structure, the district hospitals and health centers within the same aggregation will take role in the overall planning and management of the new organization, while sharing financial and human resources to maximize the people's benefits.

3) Allocation of a sector block grant from the central ministry to the AHB. The central government has a supportive role in allocation of health financing while entirely decision is made by the local organization. The central government may set the criteria for allocating health budget as a health sector block grant which will be a mix of the central government block grant with a matching grant from AHB.

4) The relationship between the AHB and the services facilities. The service aggregation should be flexibly managed and should not be required to follow all the rules and regulations of the local administration. Financial resource should be allocated to them based on the expected results and performances.

The implementing decentralization needs to support and to improve through Research and Development which is focused on the issues of the AHB, capacity building, development of monitoring and support at the central level.

Under personnel decentralization, reflecting the limited progress on decentralization of functions and problems of personnel decentralization until 2003, only 3.158 positions from the Public Works Department and the Office of

Accelerated Rural Development (ORD), at the Ministry of Interior have been transferred to local government organization. No other transfers have taken place. As noted, local government revenue stood at only 22% in 2003, compared to a 35% target in 2006. Thailand has around 1.2 million civil servants in total (23).

## **2.2 Health insurances in Thailand**

Before launching the new health insurance policy in Thailand in the year 2001, the Royal Thai government has gradually increased the health care coverage for the Thai people. By the year 1998, 80.3% of Thai people were covered by health insurances, but there was 19.7% or about 12 million Thai without any health insurance.

In 2001, the fifth health care reform consisted of a universal health care policy. The Thai government has initiated the 30 baht Universal Health Care policy starting the first phase in April 2001 and the whole country was covered in April 2002. The new health insurance scheme is to combine some previous schemes like social welfare scheme and voluntary public health insurance, with the rest of the people not covered by any scheme, altogether there will be about 46.6 millions of people under the new scheme. The other two major public schemes are the Civil Servant Medical Benefit Scheme (CSMBS) and the Social Security Scheme (SSS). Presently both schemes are still managed separately.

In 2003, there are three major forms of health insurance covering personal medical care in Thailand. Each program has its own beneficiaries, benefit coverage, amount of government subsidy, provider payment mechanism, utilization rates, and costs of care. The three major forms are:

### **2.2.1 Civil Servant Medical Benefit Scheme**

In 1980, Royal Decree on CSMBS was established (13). The CSMBS refers to the health benefit program provided by the government for civil servants,

both in-service and retired, and their immediate family members including a spouse, parents and off-spring (not more than three children less than 20 years of age). The scheme is tax financed and managed by the Ministry of Finance (MOF). The workers themselves do not contribute to the fund, because it is one of their fringe benefits. In real term the expenditures of the CSMBS increased by about 14 percent per annum through 1997. As a consequence of the economic crisis, the MOF adopted some demand-side cost control measures such as co-payments and elimination of the option to be reimbursed for care from private providers in 1998. The three important anticipated achievements from CSMBS reform are.

- 1) The introduction of co-payment for non-Essential Drug (ED) will reduce the costs of drug.
- 2) The advocacy of National Essential Drug List got a very high profile and widely known among public hospitals and physicians.
- 3) The improvement of efficiency in the use of public hospital beds.

However, the reimbursement remains a fee-for-service. Besides, no registration at the hospitals is needed for the beneficiaries. Nor are hospitals required to make any contract with the government. Moreover, there has been no systematic auditing program for claims made by hospitals (14, 15). Many insurance schemes presently operating, in particular CSMBS which is the largest one, does not have a complete roster of its beneficiaries, and does not have the faintest idea of how big group is they are serving (16).

### **2.2.2 Social Security Scheme**

The Thailand Social Security Act was implemented in September 1990. The compulsory social health insurance is one part of this Social Security Act.

The Ministry of Labor and Social Welfare (MOLSW) managed the Social security scheme (SSS), a compulsory social health insurance scheme. The SSS collects 1.5 percent of an employee's wages from the employee and 1.5 percent from the employer and an equal contribution comes from the MOLSW and private providers

on a capitation basis (15). The capitation payment was first introduced in Thailand by the Social Security office and it was capitated both for outpatient and inpatient services. Firstly it is for cost containment according to the actuarial analysis and projection at that time. That is, the actuaries calculate whether the SSS pay by the fee-for-service method would amount to a deficit in the early stages. Secondly, the scheme aims to avoid unnecessary administrative costs especially in hiring medical professional to check or audit claims and to hire a great deal of staff to annually process large claims (17).

There are weak points under the capitation payment. The Social Security Office developed a sub-system of payment to tackle those weak-points at the beginning (17, 18). They are:

1) Fee-for service reimbursement for emergency and or injury from accident. This method of payment is the means to cope with a situation that insures the urgent need for treatment when those patients are not able to go to registered hospitals.

2) Lump Sum Additional Payment for high cost medical service: There is a tendency for registered hospitals to avoid treating the insured person if he or she needs advanced technology or high cost procedures. SSS introduced this extra payment to reduce concern from providers.

3) Additional payment according to the utilization rate: After four years of scheme implementation, some hospitals complained that they were in deficit but many others were not. Instead of raising the capitation rate, SSS would pay according to the ranking of the utilization rate.

### **2.2.3 Thirty Baht Universal Health Care Coverage Scheme (UC)**

According to the national health account report in 2000, most of the health expenditure is covered by public health providers (61%), compared to the private health expenditure (39%). A greater proportion of expenditure is spent on curative care, rather than promotive and preventive care (4, 20). In 2001, the government decided to launch the new health insurance policy to expand the coverage for all Thai people under the slogan “30 Baht for curing every disease”. This health insurance

policy is part of the continuing health care reform “Health for All and All for Health”. Apart from the coverage of health care, the MoPH has tried to integrate health care reforms into the project. The expected results were not only secure a social safety net and decrease the burden on household expenditures during the economic crisis, but also emphasizes on health promotion, prevention and primary care. Furthermore the project wanted to create a more efficient health system will long term cost containment in the total health expenditures.

Economically seen, the project was undermining the country’s health system, and would accelerate the transfer of resources from public hospitals to private ones, as doctors and health care professionals sought higher incentives. For the FY 2002, 45 million Bath was spend on the ‘30 Baht Universal Health Care Scheme’ and this increased to 58 billion in the FY 2003 (21).

The MoPH’s plan to allow Bangkok residents who moved there from other provinces to choose a new clinic or hospital under the 30 baht Universal Health Care Scheme has met with overwhelming response. If people hold a gold card under the scheme they can choose a clinic or hospital closer to where they live or work. For those with home registration in Bangkok but who do not yet have a card, they can get one which specifies a clinic or hospital in Bangkok of their choice (22).

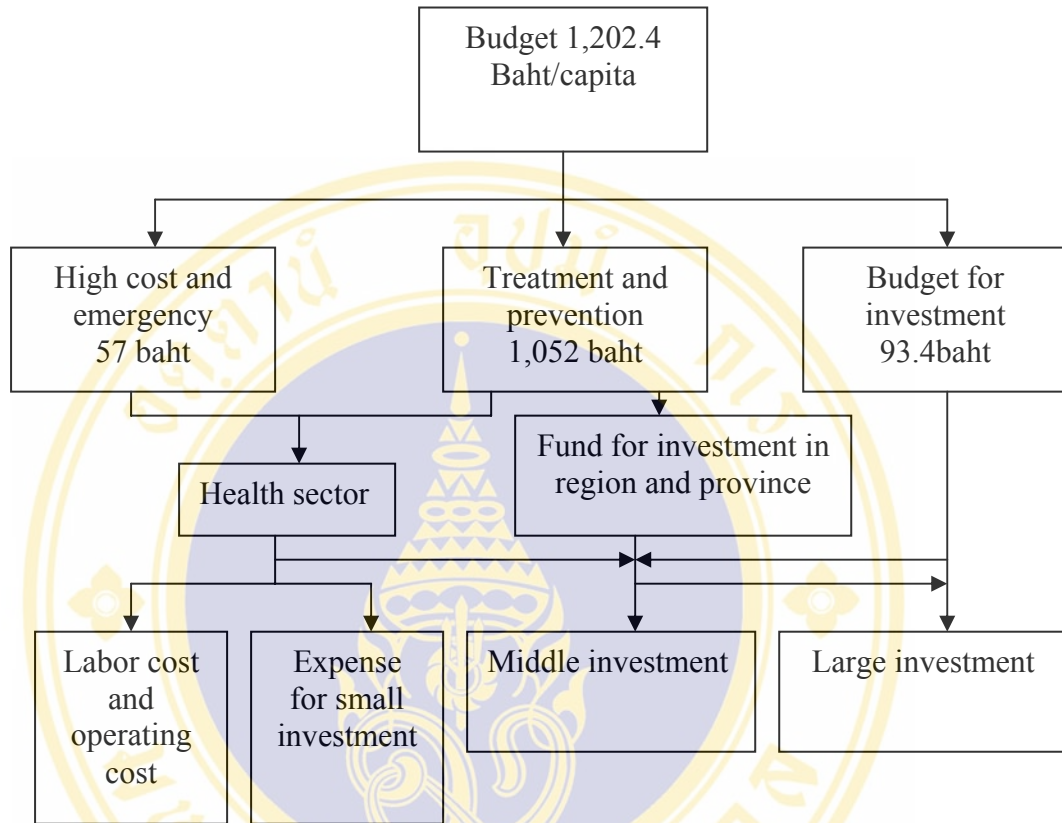


Figure 1 : Budget allocation structure in FY2002 and FY2003

Source: Preparation Development of Health Sector Resource Administration Party, MoPH, 2002 (24)

The budget allocation at 1,204 baht, but in reality this is not enough according to the population structural change. The estimate IPD in 1996 is used to calculate the capitation payment in FY2002 (25). The budget allocation per capita in FY2004 is 1,308.50 baht (26).

### 2.3 The structure of Referral System in Sakaeo province

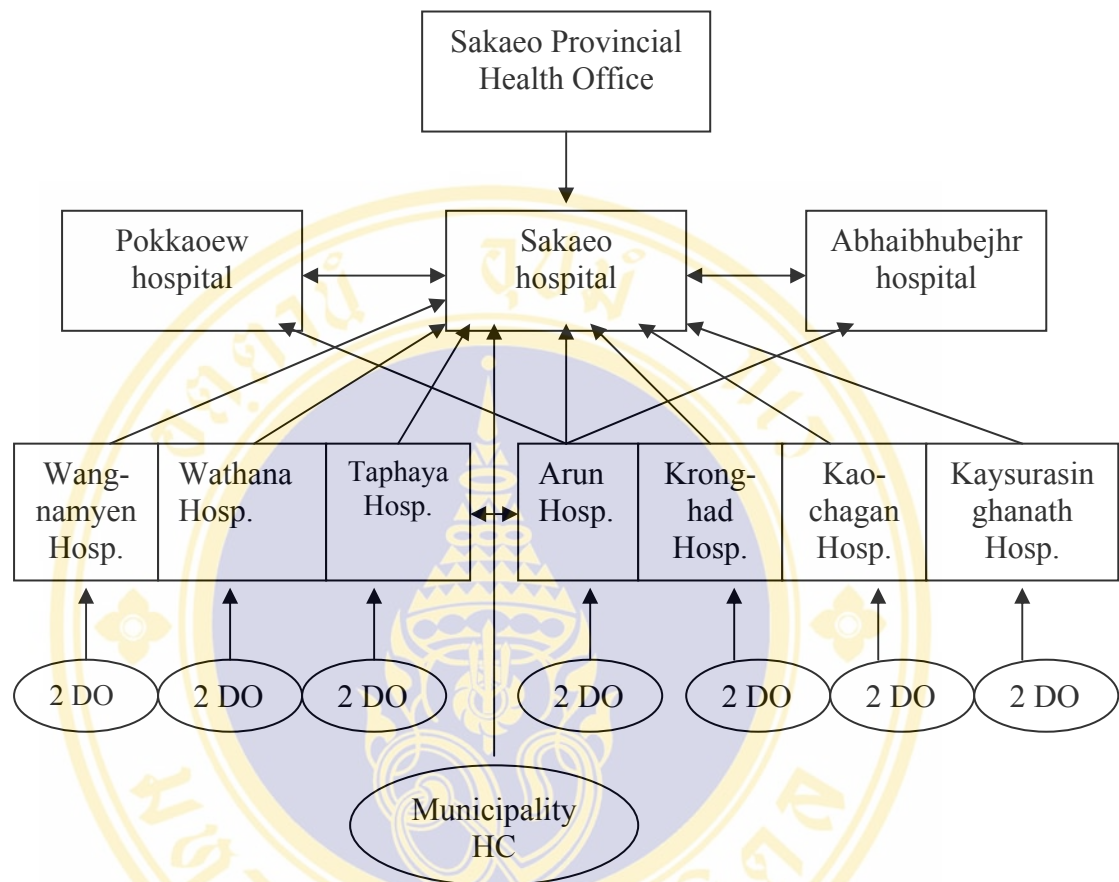


Figure 2 : The referral system under 30 baht universal coverage scheme in Sakaeo province

**DHO** = District Health Office

**HC** = Health Center

Source : Sakaeo Provincial health Office 2001 (27)

### 2.3 The importance of cost analysis

Kanongyudh et al were the pioneers on costing studies in Thailand since 1980. After Tangcharoensathein V. et al's work in 1987 developing standard methodology for hospital cost estimation, there were many subsequent studies concerning costing of hospital services, health center services and other public health programs. As there is a rapid changing role of the state in the health sector, many hospitals and

universities will become autonomous entities. Information on cost of production is vital for such future innovations (29).

Cost analysis is the examination of expenditure to determine how resources have been spent, including an analysis of revenue sources and amounts (30). Cost analysis gives the information concerning:

- 1) Amounts spent and received
- 2) Comparison of actual and budget amounts
- 3) Costs by line item
- 4) Cost by facility or location
- 5) Cost by PHC service or activity
- 6) Average costs
- 7) Cost trends over time

Cost analysis can be used for monitoring to ensure those costs are under control and to identify the problems before they become serious. This type of analysis is to compare actual costs (and revenue) to the planned budget. It can also be used for comparison by site or facility to identify areas where savings can be made or revenues increased for improving efficiency. In planning, the projection of future costs and average costs are used, by estimating budget needed to support program in the future (at the same level, at an expanded level or at a reduced level) to replicate the programme at another site.

## **2.5 Previous studies on cost analysis**

Previous studies in Thailand about cost analysis showed interesting results, which are useful for further study in this field. The results of different studies were obtained from the government organizations and researchers like:

Pithayarangsarits S. and her team found that the total operating expense of curative activity in health center was 44 percent of the total cost but her operating cost comprised of labor cost and material cost. She studied all health centers in

Samuthsakorn province in 1999 and the total curative cost was at 59 baht per time (24). Kavinum S., Thavong P., and Petchnachakr V. studied 14 health centers in Mae-waang district Chiangmai province. The result of labor cost was 50.58% of the total cost on average and the Capital cost was on average 17.47 % of the total cost (31).

Masaki E. studied on cost analysis of hospice care for HIV/AIDS patients at Wat Prabat Nampu in Thailand and found that Fifty percent of the HIV/AIDS patients in the hospice were not covered by any health insurance. The unit cost of in-patient care per day was 2,063.89 Baht per patient and cost of outpatient was 276.7 Baht per patient. The average medical care cost of hospice care for inpatient was 401.11 Baht per day (32).

Kong S. cited about cost analysis of Watsuwon health centers in Nakhon Pathom, that the capital cost was one fourth of the total cost of health centers. The rest was spent on recurrent cost especially on personnel items. The expenditure per OPD visit in this study was 107.85 Baht. The results of the study were compared with the previous results in the country of Pakistan and Chiang Mai Province (33).

Akhteruzzaman M. studied the cost analysis and cost of illness of upper respiratory tract infection by comparing the costs between 2 health centers. His result showed that the recurrent cost was almost 7 times higher than the capital cost. The highest cost in recurrent cost was drug (34).

Dean K.'s study analyzed health insurance costs for local governments in Kansas City for 2002. The overall cost of health insurance per employee or family is covered. It was found that there is a significant positive correlation between the size of the local government and the amount of the increase in total family health insurance costs and a somewhat less, but still positive, correlation between size of local government and the percent of increase in the total cost of family health insurances (35).

## 2.7 Activities-based Costing (ABC)

In the early 1970s, ABC was considered as an alternative cost analyzing method. In the cost accounting texts of that time it was primarily termed “activity accounting.” In the early 1980s, ABC gained favor for industrial entities in the United States and in the early 1990s, implementation by service entities began to gather momentum. By the mid-1990s, a trend toward the adoption of ABC by health care organizations had become well established (39).

The basic concept of ABC is emphasized on the concept that activities consume resources to produce the outputs. ABC has three major elements; activity analysis, activity costing and performance measurement (40). ABC is a methodology that measures the cost and performance of activities, resources, and cost objects. Resources are assigned to activities and activities are assigned to cost objects based on their use. ABC recognizes the casual relationships of cost drivers to activities.

## CHAPTER III

### RESEARCH METHODOLOGY

#### 3.1 Research design

This study is a cross-sectional study, which analyzed unit costs of P&P activities at the PCU level. The secondary data related to the FY 2003 were analyzed based on the Activity-based Costing (ABC) method and the unit cost analysis by activity was used to help the researcher to gather all relevant information. Interviews with the health personnel were also conducted to clarify unclear data or lacking information from the secondary sources. Self-administered questionnaires were used to collect the primary data for developing an activity dictionary and for analyzing time spent on working of each health personnel.

#### 3.2 The study place

The research was conducted at Salalumduan PCU which is being awarded by Sakaeo PHO as the most outstanding PCU of Sakaeo province in 2002. Because of the collaboration and willingness to provide all relevant information by the PCU staff, it was convenient to elaborate on the information provided. The place is adjacent to the PHO, CUP, and DHO, so it was to gather more information from those PHO, CUP, and DHO.

Since the Health Care Reform, the PCU has the following responsibilities:

- 1) The PCU will serve primary health problems.
- 2) It should improve health centers.
- 3) It will develop health personnel from health care provider to sustainable health care partnership.
- 4) It emphasizes on good health promotion rather than on the curative system.
- 5) All health manpower will become family doctors with bonding of attachment.

### 3.2.1 Geography

Salalumduan PCU was established in 1996 and is the most outstanding PCU in Sakaeo province in 2002. There are three health personnel working on Monday until Friday from 8.00 am to 12.00 pm. From the census on 30 June 2003, 1,034 households or 4,950 people were found in their catchment area. The total population in Salalumduan Sub-district was 13,363 in the same period.

Salalumduan PCU's network consists of Khao Maka health center, Nongsai health center and Salalumduan PCU. Salalumduan PCU and their health centers network are responsible for 5 villages:

1. Salalumduan moo: 1
2. Nongkok moo: 2
3. Nongkha moo: 3
4. Nongpooktao moo: 7
5. Nongpooktao moo: 13

In the North, East West and South, Salalumduan sub-district borders with Kokpeekhong sub-district, Sakeo sub-district, Banna sub-district and Wang-Thachang sub-district respectively. The number of health personnel working in Salalumduan sub-district becomes clear in the following schedule:

**Table 1** Number of Health personnel concerned in Salalumduan Sub district

Health personnel	Number	Proportion	Remarks
Doctor	1	1:13,363	} Work on Wednesday At 8.00am to at noon at Salalumduan PCU
Pharmacist	1	1: 13,363	
Assistant Pharmacist	1	1: 13,363	
Nurse	2	1: 6,667	
PH administrative	3	1:4,950	
PH. officer	2	1:4,950	
Government staff	1	1: 13,363	

**Table 1** Number of Health personnel concerned in Salalumduan Sub district (cont.)

Health personnel	Number	Proportion	Remarks
Dental care officer	1	N/A	
Thai traditional masseur	1	N/A	
PCU assistants	2	N/A	
Village Health Volunteer	118	1:9 households	

Source: Salalumduan PCU, Data Information on Public Health, June 2003.

Salalumduan PCU

Remark: N/A = Data not available

### 3.2.2 Health Insurance

Health insurances in Salalumduan sub-district cover the 98.74% of the population, which becomes clear in the following schedule:

**Table 2** Characteristics of health insurance in Salalumduan sub-district

Types of insurance	No. of population	Percentage
CSMBS	207	1.54
SSS	1,520	11.3
Gold card – with Tor (without co-payment)	4,747	35.52
• Community chief	33	0.24
• Children 0-12 years old	2,366	17.75
• Low income	505	3.77
• Secondary school	336	2.51
• VHV	179	1.33
• The maimed	5	0.03
• Veteran	39	0.27
• Elderly	1,280	9.57
• Religion leader	6	0.04
Gold card- without Tor (with co-payment)	6,720	50.28

**Table 2** Characteristics of Health insurance in Salalumduan Sub-district. (cont.)

<b>Types of insurance</b>	<b>No. of Population</b>	<b>Percentage</b>
Migrant	1	0.007
<b>Insured</b>	13,195	98.74
<b>Uninsured</b>	168	1.25
<b>Total</b>	13,363	100

Source: Salalumduan PCU, Data information on Public health, June 2003 (28).

### 3.3 Data collection procedures

#### 3.3.1 Data collection for development of activity dictionary

Activity dictionary was developed for activity analysis by self-administered questionnaires and distributed to the health personnel. It describes the following information:

- Services
- Mission
- Main activities of an organization
- Sub-activities of an organization
- Activities
- Process of activities

#### 3.3.2 Data collection for activity-based costing

Data was collected by analyzing the journal book and expenditure reports, which were provided by the health personnel at Salalumduan PCU. The researcher analyzed the data with respect to the capital and recurrent cost and interviews were conducted to verify the reliability of the data. Records of number of specialist visits and time spent were also collected and distinguished by activities. The types of data collected in this study were composed of:

## 1). Primary data

The research tool was a self-administered questionnaire, which was used to gather the primary data on activity dictionary and working time spent.

## 2). Secondary data

The research tools were the checklist forms to obtain information on financial records of the materials, equipment, buildings, vehicles, vaccines, drugs, furniture, supplies, and a logbook for using the car.

### 3.4 Sources of Data collection

**Table 3** Sources of data collection

Descriptions	PHO	CUP	DHO	PCU
<b>Primary data (self-administered questionnaires)</b>				
Time spent of staff				X
Activities at Salalumduan				X
<b>Secondary data (Financial records)</b>				
Budget of Salalumduan PCU		X	X	X
Capital cost – Building				X
Capital cost – Equipment	X	X	X	X
Capital cost – Vehicle			X	X
Capital cost – Furniture			X	X
Recurrent cost – Labor cost	X		X	X
Recurrent cost – Medical supplies and drug		X	X	X
Total cost of drug cost per month		X		X
Total cost of utility cost			X	X
No. of client visit in respective activity			X	X
Annual report, technical and financial report			X	X

Source: Salalumduan Primary Care Unit, 2003

The collected data from Salalumduan PCU needs to be reconciled with the collected data from the other sources to ensure the reliability of information. According to the sources as mentioned above, types of data are clarified in table 4.

**Table 4** Types of data classified by sources.

Sources	Types of Data
1. Budgetary Operating record	Total budget allocated at Salalumduan PCU
2. Inventory list	<p>Capital cost</p> <ul style="list-style-type: none"> <li>- Building cost.</li> <li>- Equipment of which the price is equal or more than 100US\$.</li> <li>- Vehicles cost of motorcycles, bicycle, 4 wheel drives.</li> <li>- Furniture of which the price is equal or more than 100US\$.</li> <li>- Transportation concerning equipments, furniture, and vehicles at initial purchasing.</li> </ul> <p>Recurrent cost</p> <ul style="list-style-type: none"> <li>- Equipment of which the price is less than 100US\$.</li> <li>- Office supplies of which the price is less than 100US\$.</li> </ul>
3. Drug consumption list	<p>Recurrent cost in the line of Operating cost</p> <ul style="list-style-type: none"> <li>- Drug costs.</li> <li>- Medical supplies costs.</li> </ul>
4. Salary record	<p>Recurrent cost in the line of Labor cost</p> <ul style="list-style-type: none"> <li>- Salary of health personnel and all fringe benefits.</li> </ul>

**Table 4** Types of data classified by sources. (cont.)

<b>Sources</b>		<b>Types of Data</b>
5.	Reimbursement record for treatment record	Recurrent cost - CSMBS.
6.	Child school fee Reimbursement list	Recurrent cost - Child school fee.
7.	Absent record	Time of health personnel working per annum.
8.	Geographic data of Salalumduan PCU Report (census)	Total population in the catchment area.
9.	Check-list for Labor cost (created by the researcher)	Recurrent cost in the line of labor cost. - Fringe benefits, clothes, CSMBS, children's school fee, uniform, per diem. - Weight of time spent by activities involved of the respective staff (per month).
10.	Patient record	Number of OPD visit.
11.	Expenditure financial record	Recurrent cost in the line of Operating cost. - Office supplies. - Utilities, telephone charge, electricity fee, water supply fee, guardian. - Repair and maintenance of vehicle, equipment, building, fuel, and insurance.

**Table 4** Types of data classified by sources. (cont.)

Sources	Types of Data
12. Project documents	Preventive activities <ul style="list-style-type: none"> <li>- Activities at community level.</li> <li>- Activities at the PCU.</li> </ul>

Source: Modified from Cost analysis in primary health care, a training manual for program managers. WHO/ SHS/ NHP/ 90.5, 1994

### 3.5 Costing Methodology

The line item cost can be calculated using specific details as presented in table 5 as follows:

**Table 5** Check-list for costing items

Items	Capital	Recurrent
1. Building	Construction cost and Infrastructures.	<ul style="list-style-type: none"> <li>- Maintenance such as electricity, water fee, fuel for generator, telephone, and infrastructure.</li> <li>- Repairs such as painting, roofing, etc.</li> </ul>
2. Equipment and supplies	Refrigerators, sterilizer, scale, computers, printer, radio machine, television and other equipment of which the price is US\$100 or more including the transportation at the initial purchasing.	<ul style="list-style-type: none"> <li>- Equipment and furniture of which the price is less than US\$100.</li> <li>- Drug, vaccines, and medical supplies.</li> <li>- Repair and maintenance equipment including transportation for this purpose.</li> </ul>

**Table 5** Check-list for costing items. (cont.)

Items	Capital	Recurrent
3. Vehicles	Bicycles, motorcycle, car, 4-wheel drive vehicles, truck.	- Petrol, lubricants, - Repair and maintenance such as tires, spare part, registration, insurance.
4. Personnel and training		Salaries, CSMBS, fringe benefits, training and activities, in-service courses.

Source : Modified from, Cost analysis in primary health care, a training manual for program managers. WHO/ SHS/ NHP/ 90.5, 1994

The figure 3 below shows the calculation of the unit cost and total cost. The three principles; activity analysis, activity costing, and performance measures were applied as follows:

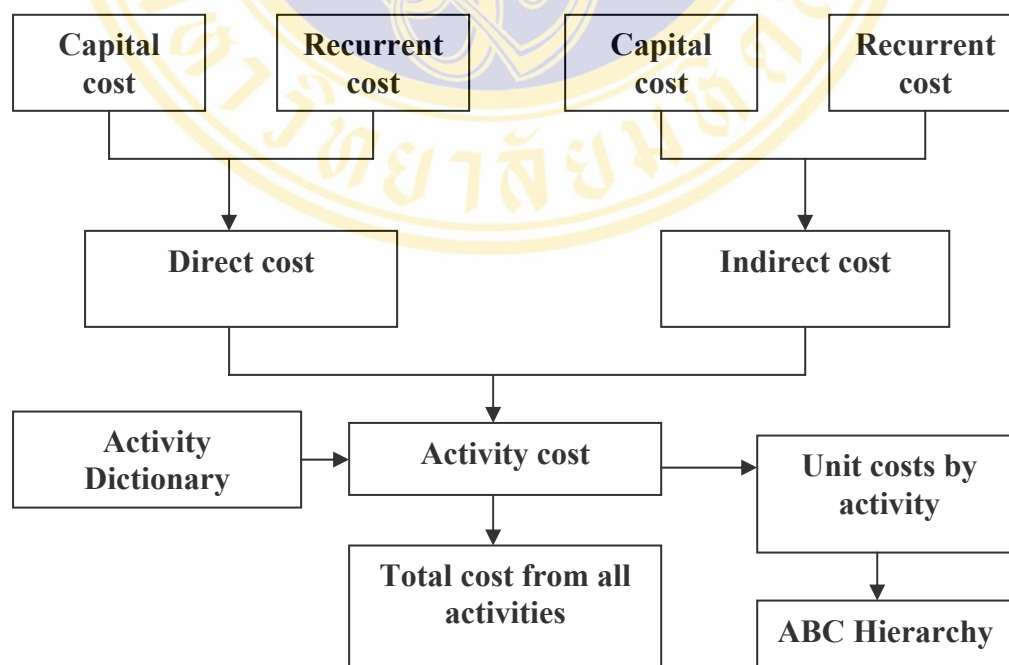


Figure 3 : The structure of calculation of unit cost and Total cost

In the ABC system, activity centers have been determined and the direct costs have been assigned to the activity centers. The overhead rate for each activity center has been calculated through the use of the first-stage and the second-stage cost drivers.

The ABC procedures are summarized as follows:

- 1) Defining activities that support the output.
- 2) Defining the lists of activity costs and the cost allocation framework.
- 3) Estimating cost by cost items and activities using direct cost tracing and indirect cost allocation.
- 4) Aggregating itemized costs into an activity of total cost.
- 5) Defining links between activities and outputs for subsequent assessment of activity / output ratios and analysis of activity / output patterns.
- 6) The labor cost is being calculated according to the tasks/activities using the percentage of time spent among the health staff. Working proportion of respective staff according to the main activities and labor cost calculation for more details on this.
- 7) The material and equipment costs are calculated by activity allocation. The capital cost are calculated according to activities

**Table 6** Dimension determining cost by input

INPUT	Dimension determining cost
<b>Capital cost</b>	
1. Vehicle	Time used / distance traveled
2. Equipment	Time used
3. Building	Space used
4. Furniture	Time used
<b>Recurrent cost</b>	
1. Medical Supplies	Weight / volume
2. Vehicle operating cost repair and maintenance	Time used / distance traveled
3. Building operating cost repair and maintenance	Time used / space used

Source: Cost analysis in primary health care, a training manual for program managers. WHO/ SHS/ NHP/ 90.5, 1994

The capital cost and recurrent cost by activities are calculated first and then summarized into the total cost as classified by activities.

### 3.5.1 Capital costs

Capital cost is calculated from the building, equipment, vehicle, and furniture that have a life span of more than one year and the cost is US\$100 or more.

In this study the life span of those materials are determined as follows:

- 1) Buildings have a useful life span of 20 years.
- 2) Equipment depends on the type and use. A checklist and an interview form are used to obtain the information from the persons who utilized the equipment.
- 3) Vehicles have a useful life span of 10 years.
- 4) Furniture is considered depending on the types and usefulness. A checklist is used and persons who utilized the equipment are

interviewed for additional information. The useful life span of all furniture is 5 years.

The value of the capital costs is depreciated annually. The equation of the capital outlay is calculated by the following financial formula (37):

$$K = \frac{C}{N}$$

K = Annual financial cost

C = Current value

N = Life span in years

In case of the materials have a life span exceeding their limit, the annual cost was estimated by the local supplier.

### 3.5.2 Recurrent cost

Recurrent cost is the cost for running the health care activities during a year. The line items under the recurrent cost in this study are composed of labor cost and operating cost.

#### 1) Labors costs

The labors costs consisted of salaries of health personnel, all fringe benefits, house allowance, uniform, child benefits, contribution for treatment of CSMBS, etc. The schemes show how the different labor costs are toted (see in Appendix C). The calculation of labor costs is based on the management structures and job descriptions and is calculated following allocating share input.

The self-administered questionnaires created by the researcher were distributed to all staff to concern for weighing the time spent by each activity.

Labor cost calculation: After using the labor cost checklist, the labor cost of the respective staff needs to be calculated by sharing the cost according to the proportion of working time in the respective activity (FTE).

FTEs = Full Time Equivalent of all tasks/activities is equal to 1.

The labor cost per activity of staff = Total salary in FY2003 x FTEs

## 2) Operating cost

Operating costs consists of office supplies, fuel for vehicles, electricity fee, water fee, telephone charge, radio fee, maintenance and repair for the equipment or furniture of which the price is less than US\$100.

Medical supplies consist of drugs, vaccines, medical consumables, medical equipments where the price is less than US\$100. This line item will be found from the drug consumption list and expenditure record. The medical supplies in stock are not included in the list of calculation. The checklists are recorded according to the respective activity.

### 3.5.3 Total cost calculation

Total cost = Capital cost + Recurrent cost

### 3.5.4 Activities costing

The resources were used to get the product by doing the activities. The purpose of this calculation was to find out the cost per product or output.

$$\text{Unit cost} = \frac{\text{Cost of Activity}}{\text{Output of Activity}}$$

## CHAPTER IV

### RESULTS

The quantitative secondary data were collected from Salalumduan PCU financial records of the FY 2003 and the primary data was obtained from a self-administered questionnaire distributed among the health staff to collect information for the activity dictionary and the time spent in the respective activity. Data was collected from the 15<sup>th</sup>, December 2003 to 29<sup>th</sup>, January 2004. The activity dictionary was used to identify the P&P activities for cost allocation. The capital cost and recurrent cost were calculated for the total cost and are distinguished in all P&P activities according to the activity dictionary. The results are presented into 2 parts:

Part 1: The promotion and prevention cost of Salalumduan PCU.

Part 2: The promotion and prevention activities cost.

The research results are summarized in table 7.

#### 4.1 The promotion and prevention cost of Salalumduan PCU

##### 4.1.1 Total cost

Generally, the PCU in Thailand receives budget under the Universal Coverage (UC) and Non-Universal Coverage (Non-UC) from the government; while some donations are received from the local resources. As can be noted in table 7, the total promotion and prevention (P&P) costs of Salalumduan PCU in the fiscal year 2003 were 1,186,497.59 baht. This amount included the government budget totaling 927,740.93 baht and local resource donations totaling 258,756.66 baht. The local resources (in cash, in kind, contribution and physical labor) were mobilized by the TAO (Tambon Administration Office) and the Municipality.

The total facility costs are 266,183.36 baht (101,036.27 baht + 120,461.47 baht +19,377.62 baht and these data are obtained from the administration, meeting/

conference, and evaluation/supervision activities). It accounted only for 22.43% of the total costs of P&P activities. Most of the facility sustaining cost was spent on the meeting and conference activity and in this line item, 64.2% of the budget is used for labor cost, which was mostly spent on CUP staff who trained the PCU staff.

The prevention and control of communicable diseases activity cost is the highest and accounted for 14% of the total cost of P&P activities. The evaluation and supervision activity is the lowest and accounted only for 1.6% of the total P&P cost. The epidemiological surveillance activity cost is the lowest fund among the level of production activities and constitutes only 1.8 % of the total P&P cost.

The cost for curative activities as a ratio of the government budget per whole income of Salalumduan PCU is 0.86 (see in Appendix F- table F1: 1,688,125.56 baht to 1,946,882.23 baht).

#### **4.1.2 Labor cost**

As presented in table 7, the labor cost within the P&P activities is equal to 764,165.1 baht and constitutes for 64.40% of the total P&P cost.

Under the government budget, the labor cost in P&P activities is 636,681.59 baht and accounted for 68.62% of the total cost under the government budget or 53.66% of the total labor cost. The labor cost in the facility level of meeting and conference activity is the highest and accounted for 14.30% (91,108.49 baht) of the labor costs. The labor cost of the community and family survey is the highest percentage found among the production activities (10.79% or 68,722.26 baht). The non-communicable disease control is the lowest in the level of product sustaining cost and constitutes only 2.2% (14,280.07 baht) of the labor costs. The labor costs related to exposure visits from PCU staff from other provinces to Salalumduan PCU was not included in this research.

Including the curative activities, the labor cost constitutes 54.4% of the total cost (see in Appendix F-table F1) and the ratio of income per labor cost is 1.84:1.

### 4.1.3 Operating cost

Under the government funding, the operating cost is 101,055.86 baht and constitutes 5.9% of the total operating cost. The operating cost of immunization activities is the highest or accounted for 25.9%. While the cost of monitoring and evaluation is found to be the lowest and accounted only 0.8% of the total operating cost. The operating cost of curative activities is 469,254.11 baht (See in Appendix F-table F1).

### 4.1.4 Capital cost

The capital cost of P&P under the government funding is 167,586.81 baht and constitutes 14.12% of the total capital cost. The capital cost in the facilities level was 37.1% (62,321.09 baht) of the total capital cost and the highest capital cost is found among the administration cost (36,753.88 baht). The capital cost of the MCH line is found to be the highest at 21,973.66 baht or accounts for 13.1% of the total capital cost. The epidemiological surveillance cost is the lowest percentage found in the level of the product sustaining costs and constitutes only 0.7 % of the capital cost.

In case of the curative activities, the capital cost is 250,455.38 baht. The highest capital cost is related to the treatment activity, as presented in Appendix F-table F1.

**Table 7: Total cost of Promotion and Prevention activities in Salalumduan PCU in FY 2003**

Tasks	No.	Activities	Government Budget										Supporting Budget		Total Supporting budget (B)	TOTAL (A) + (B)
			Labor Cost		Operating cost		Capital cost	Non UC	Total (A)	LC and VHV cost	Others and Projects costs					
			Salary and fringe benefit	Government employee	Material and Supplies	Utilities										
Community health Promotion	1	Community survey and family folder	65,674.91	3,047.35	3,047.36	1,750.00	8,790.17	3,216.67	85,526.46	36,000.00	8,000.00	44,000.00	129,526.46			
	2	School Health	32,396.42	-	11,221.39	875.00	2,768.10	-	47,260.91	6,249.51	-	6,249.51	53,510.42			
Population health Promotion	3	Dental Public Health	55,743.40	-	3,027.85	889.88	8,974.95	-	68,636.07	-	-	-	68,636.07			
	4	Maternal and Child Health	30,260.40	-	5,810.87	2,325.92	21,973.66	19,200.00	79,570.85	-	-	-	79,570.85			
Promotion	5	Immunization	24,746.11	-	24,237.50	1,954.75	17,067.25	-	68,005.61	-	-	-	68,005.61			
	6	Family Planning	37,095.55	-	7,333.96	1,199.84	10,845.79	-	56,475.14	-	-	-	56,475.14			
	7	Nutrition surveillance	23,251.47	-	903.88	525.00	1,673.97	-	26,354.32	2,812.00	-	2,812.00	29,166.32			
	8	Consumer Protection	21,664.09	-	959.83	525.00	1,690.67	-	24,839.60	-	-	-	24,839.60			
Preventive and disease control	9	Sanitation and Environmental H.	21,368.19	-	783.36	525.00	1,637.98	-	24,314.54	703.00	-	703.00	25,017.54			
	10	Epidemiological surveillance	19,657.23	-	895.27	350.00	1,203.37	-	22,105.86	-	-	-	22,105.86			
	11	Prevention and control of communicable disease	17,777.24	-	2,884.41	3,150.00	8,612.17	-	32,423.82	44,289.00	92,035.96	136,324.96	168,748.78			
	12	Prevention and control of non-communicable disease	14,280.07	-	576.76	525.00	2,066.30	-	17,448.13	4,921.00	31,237.19	36,158.19	53,606.32			
Community Health Promotion	13	Mental health and drug abuse control	31,199.71	-	1,659.86	1,050.00	3,196.29	-	37,105.86	4,921.00	-	4,921.00	42,026.86			
	14	Health Education	24,027.01	-	1,948.00	1,414.88	9,843.14	-	37,233.02	2,280.00	-	2,280.00	39,513.02			
Promotion Supporting Administrations	15	Home visit	51,502.99	-	1,256.82	1,750.00	5,055.56	-	59,565.37	-	-	-	59,565.37			
	16	Administration	20,591.84	34,310.09	6,466.05	2,914.41	36,753.88	-	101,036.27	-	-	-	101,036.27			
Human resource Development	17	Meeting and Conference	77,395.42	13,713.07	3,004.32	2,427.14	23,921.52	-	120,461.47	25,308.00	-	25,308.00	145,769.47			
	18	Evaluation/Supervision	16,979.02	-	361.55	525.00	1,512.04	-	19,377.62	-	-	-	19,377.62			
<b>Total</b>			585,611.08	51,070.51	76,379.04	24,676.82	167,586.81	22,416.67	927,740.93	127,483.51	131,273.15	258,756.66	1,186,497.59			

## 4.2 PROMOTION AND PREVENTION ACTIVITIES COSTS

### 4.2.1 Community and Family Survey

**Table 8** ABC of community and family survey activity

Sub-activities	Total cost (baht)	Amount	Unit	Unit cost	ABC Hierarchy
1. Data collection	4,179.22	12	Times	348.27	Batch
2. Family folder and registration	5,417.71	12	Times	451.48	Batch
3. Planning	4,540.87	12	Plans	378.41	Batch
4. Conducting survey	63,905.35	771	Households	82.89	Unit
5. Supervision	1,066.64	2	Times	533.32	Product
6. Physical exercise campaign	50,416.67	208	Times	242.39	Batch
<b>Total</b>	<b>129,526.46</b>				

Table 8 summarizes ABC of the community and family survey activity which is composed of 6 sub-activities such as data collection, family folder and registration, planning, conducting survey, supervision and physical exercise campaign. It was found that the conducting survey sub-activity took the main share of the total cost (63,905.35 baht) and accounted for 49.33% of the total activity cost. The unit cost of this sub-activity was 82.89 baht. The highest unit cost was found in the supervision sub-activity (533.32 baht) and the lowest unit cost was found in the conducting survey sub-activity (82.89 baht).

#### 4.2.2 School Health

**Table 9** ABC of school health activity

Sub-activities	Total cost (baht)	Amount	Unit	Unit cost	ABC Hierarchy
1. School health survey of students	4,009.71	1	Times	4,009.71	Facilities
2. School health plan	1,406.84	1	Plans	1,406.84	Facilities
3. Body check up for students	8,358.53	551	Students	15.17	Unit
4. Weight & height measure	14,782.01	551	Students	26.83	Unit
5. Vaccination					
5.1 DTP1	6,576.24	59	Students	111.46	Unit
5.2 DTP2	9,028.40	81	Students	111.46	Unit
5.3 Measles	3,031.34	59	Students	51.38	Unit
6. Iodine Checking	2,007.70	423	Students	4.75	Unit
7. Evaluation and report	3,595.60	2	Reports	1,797.80	Batch
8. Supervision	714.05	1	Time	714.05	Product
<b>Total</b>	<b>53,510.42</b>				

Table 9 summarizes ABC of the school health activity which is composed of 8 sub-activities such as school health survey of students, school health plan, body check up for students, weighting/height, vaccination, iodine checking, evaluation and report and supervision. It was found that the weighting/height sub-activity took the main share of the total cost (14,782.01 baht) and accounted for 27.6% of the total activity cost. The unit cost in this sub-activity was 26.83 baht. The highest unit cost was found in the evaluation and report sub-activity (1,797.80 baht) and the lowest unit cost was found in the iodine check sub-activity (4.75 baht).

### 4.2.3 Dental Public Health

**Table 10** ABC of dental public health activity

Sub-activities	Total cost (baht)	Amount	Unit	Unit cost	ABC Hierarchy
1. Dental public health in PCU					
1.1 Dental health education in clinic child health	5,707.56	69	Children	82.72	Unit
1.2 Dental health education or pregnant women	20,052.63	32	Women	626.64	Unit
1.3 Dental check up for pregnant women	19,458.35	32	Women	608.07	Unit
1.4 Dental health for child under 3 years old	11,523.29	222	Children	51.91	Unit
2. Community dental health	3,021.78	12	Times	251.82	Batch
3. School dental health					
3.1 Dental health education	2,395.52	3	Groups	798.51	Batch
3.2 Dental health check up	5,641.20	423	Students	13.34	Unit
3.3 Write in the form Tor Sor 003	771.12	3	Reports	257.04	Batch
4. Supervision	64.61	1	Time	64.61	Product
<b>Total</b>	<b>68,636.07</b>				

Table 10 summarizes ABC of the dental public health activity which is composed of 4 sub-activities such as dental public health in PCU, community dental health, school dental health, and supervision. It was found that dental health education for pregnant women sub-activity and the dental check up for pregnant women sub-activity took the main share of the total activity cost (68,636.07 baht) at 20,052.63 baht (29.91% of the total activity cost) and 19,458.35 baht (28.35% of the total activity cost). The unit costs in these sub-activities are 626.64 baht and 608.07 baht,

respectively. The highest unit cost was found in the school dental health education sub-activity (798.51 baht) and the lowest unit cost was found in the school dental health check up activity (13.34 baht).

#### 4.2.4 Maternal and Child Health

**Table 11** ABC of maternal and child health activity

Sub-activities	Total cost (baht)	Amount	Unit	Unit cost	ABC Hierarchy
1. Data survey of pregnant women	4,403.13	12	Times	366.93	Batch
2. Pregnancy registration and ANC services					
2.1 Interview	4,185.31	32	Persons	130.79	Unit
2.2 Body check up	3,764.31	32	Persons	117.63	Unit
2.3 Blood test	21,841.77	32	Persons	682.56	Unit
2.4 Abdominal examination	9,392.56	32	Persons	293.52	Unit
2.5 Vaccination TT	7,809.55	58	Sharps	134.65	Unit
2.6 Report	3,363.68	1	Report	3,363.68	Product
3. Follow up the non-registration pregnant women	6,925.74	8	Persons	865.72	Unit
4. Post-partum follow up for mother	7,258.60	32	Persons	226.83	Unit
5. Follow up the babies after delivery	7,258.60	32	Persons	226.83	Unit
6 Monitoring and Supervision	3,367.61	1	times	3,367.61	Product
<b>Total</b>	<b>79,580.75</b>				

Table 11 summarizes ABC of the maternal and child health activity which is composed of 6 sub-activities such as data survey of pregnant women, pregnancy registration and ANC services, follow up the non- registration pregnant women, post-partum follow up for mother, follow up the babies after delivery, and monitoring and supervision. It was found that the blood test, in the pregnancy registration and ANC services sub-activity, took the main share of the total cost (21,841.77baht) and accounted for 27.44% of the total activity cost. The unit cost in this sub-activity was 682.56 baht. The highest unit cost was found in the pregnancy registration and ANC services sub-activity (3,363.68 baht) and the lowest unit cost was found in the pregnancy body checks up sub-activity (117.63 baht).

#### 4.2.5 Immunization

**Table 12** ABC of immunization activity

Sub-activities	Total cost (baht)	Amount	Unit	Unit cost	ABC Hierarchy
1. Survey	6,435.93	12	Times	536.33	Batch
2. Immunization plan	7,470.38	12	Plans	622.53	Batch
3. Community vaccination					
3.1 Vaccination for infant 0-1 year	37,656.45	45	infant	836.81	Unit
3.2 Vaccination for children 1.5-2 years	6,941.45	24	Children	289.23	Unit
4. Preparation and conclusion for reports	6,078.87	12	Reports	506.57	Batch
5. Monitoring and supervision	3,422.52	1	Time	3,422.52	Product
<b>Total</b>	<b>68,005.61</b>				

Table 12 summarizes ABC of the immunization activity which is composed of 5 sub-activities such as survey, immunization plan, community

vaccination, preparation and conclusion for reports, and monitoring and supervision. It was found that the vaccination for children 0-1 year, in the community vaccination sub-activity, took the main share of the total cost (37,656.45 baht) and accounted for 55% of the total activity cost. The unit cost in this sub-activity was 836.81 baht. The highest unit cost was found in the monitoring and supervision sub-activity (3,422.52 baht) and the lowest unit cost was found in the vaccination for children 1.5-2 years old sub-activity (289.23 baht).

#### 4.2.6 Family planning

**Table 13** ABC of family planning activity

Sub-activities	Total cost (baht)	Amount	Unit	Unit cost	ABC Hierarchy
1. Survey	2,991.63	1	Time	2,991.63	Product
2. Family planning services and following up					
2.1 Interview	4,433.81	556	Persons	7.97	Unit
2.2 Health education	4,433.81	556	Persons	7.97	Unit
2.3 Contraception service					
2.3.1 Oral contraception	4,342.35	245	Persons	17.72	Unit
2.3.2 Con. injection	7,953.31	217	Persons	36.65	Unit
2.3.3 Follow up for Norplant	570.13	2	Persons	285.07	Unit
2.3.4 Follow up for loops	712.71	4	Persons	178.18	Unit
2.3.5 Condom	2,281.09	50	Persons	45.62	Unit
2.3.6 Follow up for vasectomy	712.71	2	Persons	356.36	Unit

**Table 13** ABC of family planning activity (cont.)

Sub-activities	Total cost (baht)	Amount	Unit	Unit cost	ABC Hierarchy
2.3.7 Follow up for Tubectomy	18,249.81	138	Persons	132.24	Unit
3. Data records	3,831.89	556	Times	6.89	Batch
4. Data analysis	3,552.50	2	Times	1,776.25	Product
5. Supervision	2,409.41	1	Time	2,409.41	Product
<b>Total</b>	<b>56,475.14</b>				

Table 13 summarizes ABC of the family planning activity which is composed of 5 sub-activities such as survey, family planning services, data records, data analysis, and supervision. It was found that tubectomy in the contraception service sub-activity took the main share of the total cost (18,249.81 baht) and accounted for 32.31% of the total activity cost. The unit cost in this sub-activity was 132.24 baht. The highest unit cost was found in the monitoring and supervision sub-activity (2,409.41 baht) and the lowest unit cost was found in the data records sub-activity (6.89 baht).

#### 4.2.7 Nutritional Surveillance

**Table 14** ABC of nutritional surveillance activity

Sub-activities	Total cost (baht)	Amount	Unit	Unit cost	ABC Hierarchy
1. Survey	5,569.40	2	Time	2,784.7	Batch
2. Weight & height and health education	18,988.94	222	Children	85.54	Unit
3. Data analysis and conclusion	4,008.09	4	Reports	1,002.02	Batch
4. Supervision	599.89	1	Time	599.89	Product
<b>Total</b>	<b>29,166.32</b>				

Table 14 summarizes ABC of the nutrition surveillance activity which is composed of 4 sub-activities such as survey, weighting/height and health education, data analysis and conclusion, and supervision. It was found that the weighting/height and health education sub activity took the main share of the total cost (18,988.94 baht) and accounted for 65.10% of the total activity cost. The unit cost was 85.54 baht in this sub-activity. The highest unit cost was found in the survey sub-activity (2,784.7 baht) and the lowest unit cost was found in the weigh & height measure and health education sub-activity (85.54 baht).

#### 4.2.8 Consumers Protection

**Table 15** ABC of consumers protection

Sub-activities	Total cost (baht)	Amount	Unit	Unit cost	ABC Hierarchy
1. Survey	1,303.76	1	Time	1303.76	Batch
2. Plan	2,254.61	3	Plans	751.54	Batch
3. Food inspection	18,802.96	47	Shops	400.06	Unit
4. Evaluation	1,969.4	3	Reports	656.47	Batch
5. Supervision	508.87	1	Time	508.87	Product
<b>Total</b>	<b>24,839.6</b>				

Table 15 summarizes ABC of the consumers protection activity which is composed of 5 sub-activities such as survey, consumer protection plan, food inspection, evaluation, and supervision. It was found that the food inspection sub-activity took the main share of the total cost (18,802.96 baht) and accounted for 75.69% of the total activity cost. The unit cost in this sub-activity was at 400.06 baht which was the lowest in the consumers protection activity. The highest unit cost was found in the consumer protection plan sub-activity (2,254.61 baht).

#### 4.2.9 Sanitation and environmental health

**Table 16** ABC of sanitation and environmental health activity

Sub-activities	Total cost (baht)	Amount	Unit	Unit cost	ABC Hierarchy
1. Assessment	2,039.58	935	Households	2.18	Unit
2 Health needs analysis	8,384.68	4	Reports	2,096.17	Batch
3. Sanitation and environmental health services	13,834.05	2	Times	6,917.03	Batch
4. Supervision	759.23	1	Time	759.23	Product
<b>Total</b>	<b>25,017.54</b>				

Table 16 summarizes ABC of the sanitation and environmental health activity which is composed of 4 sub-activities such as assessment, health needs analysis, sanitation and environmental health services, and supervision. It was found that the sanitation and environmental health services sub-activity took the main share of the total cost (13,834.05 baht) and accounted for 55.29% of the total activity cost. The unit cost in this sub-activity was at 6,917.03 baht which was the highest in the sanitation and environmental health activity. The lowest unit cost was found in the assessment sub-activity (2.18 baht).

#### 4.2.10 Epidemiological Surveillance

**Table 17** ABC of epidemiological surveillance activity

Sub-activities	Total cost (baht)	Amount	Unit	Unit cost	ABC Hierarchy
1. Data collection	5,058.53	58	Reports	87.22	Unit
2. Data analysis and planning	10,845.53	58	Reports	186.99	Unit
3. Surveillances and monitoring	5,496.32	52	Reports	105.7	Unit
4. Supervision	705.48	1	Time	705.48	Product
<b>Total</b>	<b>22,105.86</b>				

Table 17 summarizes ABC of the epidemiological activity which is composed of 4 sub-activities such as data collection, data analysis and planning, surveillances and monitoring, and supervision. It was found that the data analysis and planning sub-activity took the main share of the total cost (10,845.53 baht) and accounted for 49.06% of the total activity cost. The unit cost in this sub-activity was 186.99 baht. The highest unit cost was found in the supervision sub-activity (705.48 baht) and the lowest unit cost was found in the data collection sub-activity (87.22 baht).

#### 4.2.11 Prevention and control of communicable diseases

**Table 18** ABC of prevention and control of communicable diseases activity

Sub-activities	Total cost (baht)	Amount	Unit	Unit cost	ABC Hierarchy
1. Community survey	26,845.96	935	Households	28.71	Unit
2. Planning	472.78	2	Plans	236.39	Batch
3. Communicable diseases campaign					
3.1 Action against DHF	95,948.46	790	Households	121.45	Unit
3.2 Action against Rabies	36,698.37	350	Dogs	104.85	Unit
3.3 Action against AIDS	5,961.29	68	Persons	87.67	Unit
4. Conclusion and report	668.15	4	Reports	167.04	Batch
5. Supervision	2,153.78	1	Time	2,153.78	Product
<b>Total</b>	<b>168,748.78</b>				

Table 18 summarizes ABC of the prevention and control of communicable diseases activity which is composed of 5 sub-activities such as community survey, planning, communicable diseases campaign, conclusion and report, and supervision. It was found that action against DHF in the communicable disease campaign sub-activity took the main share of the total cost (95,948.46 baht) and accounted for 56.85% of the total activity cost. The unit cost in this sub-activity was 121.45 baht. The highest unit cost was found in the supervision sub-activity (2,153.78 baht) and the lowest unit cost was found in the community survey sub-activity (28.71 baht)

#### 4.2.12 Prevention and control of non-communicable diseases

**Table 19** ABC of prevention and control of non-communicable diseases activity

Sub-activities	Total cost (baht)	Amount	Unit	Unit cost	ABC Hierarchy
1. Community Survey	2,829.69	5	Villages	565.94	Batch
2. Planning	4,033.12	1	Report	4,033.12	Batch
3. Non communicable disease campaign					
3.1 Pap smear	2,070.95	26	Persons	79.65	Unit
3.2 HT and diabetes	40,446.39	230	Persons	175.85	Unit
3.3 Breast check up	2,070.95	26	Persons	79.65	Unit
4. Conclusion and Report	1,339.27	1	Report	1,339.27	Batch
5. Supervision	815.96	1	Report	815.96	Product
<b>Total</b>	<b>53,606.32</b>				

Table 19 summarizes ABC of the prevention and control of non-communicable diseases activity which is composed of 5 sub-activities such as community survey, planning, non-communicable diseases campaign, conclusion and report, and supervision. It was found that hypertension and diabetes, in the non-communicable disease campaign sub-activity, took the main share of the total cost (40,446.39 baht) and accounted for 75.45% of the total activity cost. The unit cost in this sub-activity was 175.85 baht. The highest unit cost was found in the planning sub-activity (4,033.12 baht) and the lowest unit cost was found in the Pap smear campaign and breast check up campaign sub-activity (79.65 baht).

### 4.2.13 Mental health and drug abuse control

**Table 20** ABC of mental health and drug abuse control activity

Sub-activities	Total cost (baht)	Amount	Unit	Unit cost	ABC Hierarchy
1. Survey and data collection					
1.1 Patient registration and advices	755.83	42	Persons	18.00	Unit
1.2 Drug abuse survey and registration	6,366.51	25	Persons	254.66	Unit
2. Planning and cooperating	14,091.52	24	Times	587.15	Batch
3. Rehabilitation	8,804.42	20	Patients	440.22	Unit
4. Follow up and report					
4.1 Follow up to take medication	9,543.50	20	Persons	477.17	Unit
4.2 Follow up to test urine	1,726.53	20	Persons	86.33	Unit
5. Supervision	738.58			738.58	Product
<b>Total</b>	<b>42,026.86</b>				

Table 20 summarizes ABC of the mental health and drug abuse activity which is composed of 5 sub-activities such as survey and data collection, planning and cooperation, rehabilitation, follow up and report, and supervision. It was found that the planning and cooperation sub-activity took the main share of the total cost (14,091.52 baht) and accounted for 33.53% of the total activity cost. The unit cost in this sub-activity was 477.17 baht. The highest unit cost was found in the supervision sub-activity (738.58 baht) and the lowest unit cost was found in the follow up to test urine sub-activity (86.33 baht).

#### 4.2.14 Health education

**Table 21** ABC of health education activity

Sub-activities	Total cost (baht)	Amount	Unit	Unit cost	ABC Hierarchy
1. Health education in PCU					
1.1 Group and individual health education	10,973.49	11	Times	997.59	Batch
1.2 Manage health information board	4,716.32	4	Times	1,179.08	Batch
2. Community health education					
2.1 Health education at the village	15,834.04	60	Times	263.90	Batch
2.2 Health education by using loudspeakers	2,280.00	24	Times	95.00	Batch
3. School Health Education	5,329.11	36	Times	148.03	Batch
4. Supervision	380.06	1	Time	380.06	Product
<b>Total</b>	<b>39,513.02</b>				

Table 21 summarizes ABC of the health education activity which is composed of 4 sub-activities such as health education in PCU, community health education, school health education and supervision. It was found that the health education at the village line took the main share of the total cost (15,834.04 baht) and accounted for 40.07% of the total activity cost. The unit cost in this sub-activity was 263.90 baht. The highest unit cost was found in the supervision sub-activity (380.06 baht) and the lowest unit cost was found in the health education by using loudspeakers sub-activity (95.00 baht)

#### 4.2.15 Home visit

**Table 22** ABC of home visit activity

Sub-activities	Total cost (baht)	Amount	Unit	Unit cost	ABC Hierarchy
1. Survey and consultation	59,124.26	771	Households	76.69	Batch
2. Supervision	441.11	1	Time	441.11	Product
<b>Total</b>	<b>59,565.37</b>				

Table 22 summarizes ABC of home visit activity which is composed of 2 sub-activities such as survey and consults, and supervision. It was found that the survey and consultation sub-activity took the main share of the total cost (59,124.26 baht) and accounted for 99.25% of the total activity cost. The unit cost in this sub-activity was the lowest at 76.69 baht. The highest unit cost was found in the supervision sub-activity (441.11 baht).

#### 4.2.16 Administration and cooperation

**Table 23** ABC of administration and cooperation activity

Sub-activities	Total cost (baht)	Amount	Unit	Unit cost	ABC Hierarchy
1. Coporation and management					
1.1 Set up mission	900.00				Facility
1.2 Financing	16,268.24				Facility
1.3 Reports	28,628.00				Facility
1.4 Administration and documentation	45,873.19				Facility
1.5 Coordination	3,522.21				Facility
2. Evaluation	5,844.62				Facility
<b>Total</b>	<b>101,036.26</b>				

Table 23 summarizes ABC of the administration and cooperation activity which is composed of 2 sub-activities such as cooperation and management, and evaluation. It was found that the administration and documentation sub-activity took the main share of the total cost (45,873.19 baht) and accounted for 45.40% of the total activity cost. The lowest expenditure was found in the set up mission sub-activity (900.00 baht). In each sub-activity the unit of the facility cannot be identified as the facility consists of costs that are not allocated.

#### 4.2.17 Conference and meeting

**Table 24** ABC of conference and meeting activity

Sub-activities	Total cost (baht)	Amount	Unit	Unit cost	ABC Hierarchy
1. Health team supervision	86,987.02				Facility
2. Meeting in CUP	2,939.22				Facility
3. Meeting in PCU	10,968.84				Facility
4. VHV meeting	44,874.40				Facility
<b>Total</b>	<b>145,769.48</b>				

Table 24 summarizes ABC of the conference and meeting activity which is composed of 4 sub-activities such as supervision of the health team, meeting in CUP, meeting in PCU, and VHV meeting. It was found that the health team supervision sub-activity took the main share of the total cost (86,987.02 baht) and accounted for 59.67% of the total activity cost. The lowest expenditure was found in the meeting in CUP sub-activity (2,939.22 baht). In each sub-activity the unit of the facility cannot be identified as the facility consists of costs that are not allocated.

#### 4.2.18 Monitor and evaluation

**Table 25** ABC of monitoring and evaluation activity

Sub-activities	Total cost (baht)	Amount	Unit	Unit cost	ABC Hierarchy
1. Inventory and report	9,977.05				Facilities
2. Monitor and Evaluation	3,014.02				Facilities
3. Awarding a prize for outstanding PCU performance	6,386.55				Facilities
<b>Total</b>	<b>19,377.62</b>				

Table 25 summarizes ABC of the monitoring and evaluation activity which is composed of 3 sub-activities such as inventory and report, monitoring and evaluation, and awarding a prize for outstanding PCU performance. It was found that the inventory and report sub-activity took the main share from the total cost (9,977.05 baht) and accounted for 51.48% of the total activity cost. The unit cost in this sub-activity was at 9,977.05 baht the highest in this activity and the lowest unit cost was found in the monitoring and evaluation sub-activity (3,014.02 baht). In each sub-activity the unit of the facility cannot be identified as the facility consists of costs that are not allocated.

## CHAPTER V

### DISCUSSION

The following issues are raised to discuss from the results of this study:

Part 1: Strengths and weakness of this study

Part 2: Principle findings according to the activity analysis and activity-based costing

Part 3: Cost comparison with other finding

Part 4: Decentralization of health system to the Local Administrative Organization

Part 5: The PCU network system

#### 5.1 Strength and weakness of this study

##### 5.1.1 The strength of this study

1) This research has shown that it is possible to do ABC in Salalumduan PCU. The PCU staff has a high capacity and they took responsibility for carrying out their work professionally. As a result, the PCU staff has collected data on a regular basis and these data have been recorded systematically. Therefore it was uncomplicated for the researcher to obtain the necessary data to conduct ABC at Salalumduan PCU.

2) ABC reflects the management and resource using to attain the output or products (39). The analysis of results is used to manage the resources properly in the respective activity. ABC in this study can verify the level of product and facility in details explanation. Moreover; the calculation of cost according to the activities is not distortedly and therefore it is very accurate. The ABC system defines the level of output such as unit cost, batch level cost or product sustaining level. The ABC calculation of Salalumduan PCU showed clearly that there was an emphasis on P&P

activities. This is in accordance with the MoPH goal for 2003 was expressed by Chatri Banchuin (7), which also emphasizes the importance of P&P activities.

3) In future, PCU and donors can distinguish easily in which sub-activity at the PCU is necessary to request for additional funding. In each sub-activity, ABC shows details of expenditures, while manager can manage the cost according to the hierarchy of ABC efficiently. The PCU manager can plan how to manage with budget allocations or to set up priorities of tasks based on the past experiences of ABC analysis.

4) This study focused only on a period of 1 year study and this is in line with the ideas of Tangcharoensatheien V had ever expressed in the Sub-district health center costing manual from 1997, that should use 1 year data for cost analysis because it will avoid the changeability of capital and service quantity (36).

### **5.1.2 The weakness of this study**

1) Due to a time constraint, it was not possible to calculate and separate all of the exact costs of both P&P and curative activities. For other activities, the product was not clear such as epidemiology surveillances, sanitation and environmental health services.

2) The existing financial records are totally different from the general ABC method. Therefore, it took a lot of time for the researcher to adjust the data from the existing records into ABC. To obtain all data for this study, the PHO, CUP, 9 DHOs, 2HCs, TAO, Municipality, VHV, and school staff had to be consulted. Normally, the PCU, are worked closely with the local organizations, but it was rather complicated to obtain and record all information properly. If the ABC study will be conducted in other PCUs and the PCU does not co-operate well with local organizations it will be very difficult to obtain all information accordingly.

3) Using the ABC methods consumes a lot of working hours and more personnel will be needed to implement the ABC successfully. Especially when a PCU is not well organized, ABC can be a lengthy exercise with limited results.

4) The cost of blood test (600 baht per person) is double the amount of what the hospital charges. Obviously the data on the cost of blood test is not transparent at the PCU level so it should not be calculate at this level.

## **5.2 Statement of principle findings according to the activity analysis and costing**

The results of many cost analysis studies show that labor cost, like in this ABC study, contributes mainly to the total cost. Akhteruzzaman M. conducted a cost analysis study on the upper respiration tract infection in 2002 and found that the personnel cost was the highest at 44.1% of the total cost (34). The study on unit cost analysis of health center in Nakhon Pathom conducted by Kong S. in 2002 also found that the labor cost contributed significantly to the total cost (33).

Based on the activity analysis from the activity dictionary presented in Appendix A, the unit cost and ABC hierarchy presented in Appendix E and the ABC total cost presented in Appendix F, the following ABC activities are being discussed:

### **5.2.1 Community and family survey activity**

Most of the community and family survey budget was spent on conducting surveys. The money in this sub-activity was mainly spent on the labor cost of PCU staff and two health center staff. The municipality and CUP spent 50,416.67 baht on the physical exercise campaign and the money in this sub-activity was mainly used to cover the labor cost of the physical exercise teacher.

### **5.2.2 School health activity**

Most of the school health budget was spent on weighting children, checking their bodies and vaccinating them. The vaccination sub-activity cost is the highest (18,635.98 Baht) and is mainly spent on vaccines (9,788.10 baht or 52.52% of

the total vaccination cost). The money in the weight & height measure sub-activity was mainly spent on the labor cost of PCU staff and three teachers, who weighted the children twice a year. Interestingly, the bodies check up unit costs were 3 times more than iodine checks. It was found that the difference is caused by the labor cost of the body check up as additional health education is provided during this activity.

### **5.2.3 Dental public health activity**

The community dental health is mostly conducted at Salalumduan PCU and the school dental health sub-activity, consists of observing the dental health of children, additional health education, giving dental health supplies, keeping dental records and writing the school dental health reports.

### **5.2.4 Maternal and child health**

The cost of pregnancy registration and services sub-activity is the highest in maternal and child health activity. The high cost is caused by the blood test for patients when they are registered (21,841.77 baht or 43% of the pregnancy registration and service cost). The cost in the vaccination TT sub-activity includes different types of vaccines such as TT1, TT2, TT3 and TT booster (presented in Appendix E). Follow-up on pre-delivery was organized for the absent pregnant women who did not receive any ANC and the cost per unit in this sub-activity is 4 times higher than the follow-up in the post-delivery sub-activity. The difference is caused by the fact that most of the post-delivery mothers tend to visit the PCU by themselves. Therefore the fuel and transport cost per unit is lower than for the follow up the non-registration pregnant women sub activity.

### **5.2.5 Immunization**

The cost of the community immunization line was the highest in the immunization activity. The high cost was caused by the vaccine expenditure (23,105 baht or 51.8% of the total community vaccination cost). All information is presented in appendix E-table E1. The cost of vaccination for infant is costly because many kinds of vaccines are provided such as DPT, Hepatitis, Measles and OPV. Children from 1.5 to 2 years of age received only OPV and dPT booster. BCG vaccination for

children was provided at the hospital, so these vaccinations were not calculated in the budget of Salalumduan PCU.

### **5.2.6 Family planning**

The high cost of the family planning services line was mainly caused by the labor cost (73% of the family planning services sub-activity) and differs from the health center cost analysis study conducted in Utharadith by Rumkaewwong N in 1998 (36). The study found that the labor cost accounted for 41.81% of the total cost in this activity.

The cost of contraception material was 17.6% of the family planning services sub-activity. Data on the following up the people such as Norplant, Loops, Vasectomy and Tubectomy were not available, so the calculation of unit cost may differ from the accurate value.

### **5.2.7 Nutritional surveillance activity**

The cost of weighting children was by far the highest (64.9% of the nutrition surveillance activity). The high cost in the weight/height sub-activity was caused by labor as the PCU staff provides health education to mother and child on important food, clean water and washing hands.

### **5.2.8 Consumers Protection**

The high cost of the food inspection sub-activity was mainly caused by the labor cost (91.2% of the food inspection sub-activity). The health staff spent a lot of time traveling and checking food at the shops under the slogan “clean food good test”.

### **5.2.9 Sanitation and environmental health**

The sanitation and environmental health activity was not always assessed through routine work. Most of the work within the sanitation and environmental health services in the FY 2003 related to writing reports and solving environmental problems in the community such as followed up to solve the stench from pig farms and checked the water supplies.

### **5.2.10 Epidemiological activity**

The total cost of the surveillance and monitoring sub-activity was relatively low compared to the data analysis and planning line as the PCU staff wrote many reports at the office.

### **5.2.11 Prevention and control of communicable diseases**

The high cost of the action against DHF sub-activities was related to the large amount of materials provided to the community such as Abate sand and water container covers. The campaign on “Action against DHF” was conducted during the high incidence rate of DHF which affected 90 persons per population of 100,000 persons on average per year in 2003 (27). Sakaeo Province high ranked on DHF in Thailand (43). The MoPH goal and strategy for preventive and control of communicable diseases was to reduce the incidence rate to 50 persons per population of 100,000 persons in the FY 2003 (42). The TAO and municipality responded by prioritizing funding for the DHF campaign organized by Salalumduan PCU.

Besides the campaigns activities, the community survey sub-activity cost is the highest caused by the labor cost of VHVs. This sub-activity was conducted by VHVs in cooperation with PCU staff.

### **5.2.12 Prevention and control of non-communicable diseases**

The community survey is conducted by VHVs in their villages and they submitted a report to the PCU. The cost to conduct a hypertension and diabetes survey was supported by the TAO and the municipality. In this study the cost for Pap smear test and breast check up were the same because there was a lack of supplies data in the Pap smear sub-activity.

### **5.2.13 Mental health and drug abuse control**

In the rehabilitation sub-activity is an integrated part of addressing mental health and drug abuse problems. This study focused only prevention and promotion activities, but it was difficult to exclude the treatment in this sub-activity. Most of the

events in the ABC of mental health and drug abuse control activity were related to the drug abuse.

#### **5.2.14 Health education**

The high cost of the health education activity at the village sub-activity is mainly caused by the labor cost (85.3% of the health education in the village sub-activity). This percentage is similar to a health center cost analysis study conducted in Utharadith by Rumkaewwong N in 1998 (36). The study found that the labor cost accounted for 82.11% of the total cost in this activity.

ABC hierarchy in this activity was mostly recorded at the batch level because it is difficult to identify certain number of units any time health education is provided.

#### **5.2.15 Home visit**

The cost in the survey and consult sub-activity was mainly related to the staff labor cost from the CUP, PCU and 2HCs (86.4% of the survey and consults sub-activity). The CUP provides extra budget to conduct several surveys and consultation during a weekend period. During the home visit, different activities such as individual health education and home health care were provided. The purpose of these activities was to provide support and to increase awareness among people in the PCU's catchment area. In addition community and family surveys were conducted to create and update family folders.

#### **5.2.16 Administration and cooperation**

The high cost in the administration and documentation sub-activity is caused by the labor cost of the government employees (37.7% of the administration and document sub-activity) and the building cost (37.2% of the administration and document sub-activity).

### **5.2.17 Conference and meeting**

The high cost from the health team supervision sub-activity was caused by the CUP labor cost of staff (60.3% of the health team supervision sub-activity). The cost of labor in the VHV meeting sub-activity should be interpreted as an opportunity cost. The VHVs did not receive any stipend by attending this meeting.

### **5.2.18 Monitor and evaluations**

The high cost from the inventory and report sub-activity was caused by the labor cost of PCU staff (76.1% of the inventory and report sub-activity). The labor cost mainly related to writing reports and recording data and the information was shared with PHO, DHO and other PCUs.

## **5.3 Cost comparison with other findings**

The comparison of total cost, labor cost and operating cost with the previous study used by the MoPH and Sakaeo PHO can be summarized as follows:

The facility level cost in this study is 22.43% of the total cost in this study. The ABC of this study can be accepted according to the standard value of facility level cost from the MoPH as it does not exceed 30% of the total cost (40).

The proportion of labor cost constitutes 54.40% of the total cost in Salalumduan PCU and this is very similar to the 53.16% found by Kawinum S, Thawong P and Petnachak V. who did a study on the costing of health centers in Maewang district in 1997 (36). A study conducted at Thasak health center in Utaradith province in 1998 found that the proportion of labor cost is lower than Salalumduan PCU as it accounted for 37.7% of the total cost. The proportion of labor cost in Slalumduan PCU is lower than the 71.51% average spent on labor of sub-contractors in Sakaeo CUP resulting from data analysis (0110 Ror Ngor 5) in Sakaeo province during October 2002 to July 2003. The proportion of labor cost in Salalumduan PCU is also less than the 71.01% national average in Thailand. This study found that the time that civil servants and government employees were allocated to the activities of Salalumduan PCU was

adequate. However, the allocation of local resources such as VHVs and school teachers was on the low side; moreover, the construction of the infrastructures in FY 2003 has to be taken into account as well. According to the national standard, PCUs should be open for 56 hours per week. Salalumduan PCU opened 24 hours per day, so the opening hours in Salalumduan PCU exceed the national standard (45).

The income per labor cost ratio is 1.84 and this is more than the average ratio of sub-contractors in Sakaeo CUP (1.73) and the Thai national average (1.61). Vice versa the government budget per income ratio of Salalumduan PCU is 0.86 and less than the average ratio of sub-contractors in Sakaeo CUP (0.94) and the Thai national average (0.91). It implies that Salalumduan PCU has enough budgets to operate the activities according to the MoPH standard. The reason for this situation related to the additional budget the Salalumduan PCU received from local resources such as the TAO and the Municipality.

The P&P cost is 1.21 times more than curative cost in Salalumduan PCU (facility level cost not included). This is similar to a health center cost analysis study conducted in Nakhon Pathom by Sok Kong in 2002 (33). The study found that the cost of health promotion, disease prevention and control activities to be higher than the curative cost. The results of both studies are in line with the Thai National Health Policy (11, 12).

Previous studies on calculating unit costs of health activities through ABC are very rare. Table 26 compares the unit costs calculated through ABC and through a traditional costing method.

**Table 26** Cost comparison of unit costs according to health activities between ABC and previous cost analysis study.

Activities	Unit cost of health centers in the place of		
	Mae Wang 1997	Thasak 1998	Salalumduan 2003 (ABC)
MCH	225.2/ visit	235.4/ visit	117.63/person
Family planning	76.7/ visit	27.4/ visit	7.97/ person
Immunization	81.5/ visit	131.8/ visit	289.23/ child
Health education	134.6/ time	-	95/ time
School health	164.8/ time	2,073.27/ student	4.75/ student
Sanitation	164.2 / latrine	-	2.18/ household

As can be noted above, the unit cost of Salalumduan PCU of most of the health activities is lower than the two health centers. The traditional costing method in Mae Wang and Thasak as an overall picture of the respective activities, however it does not give any details about the different sub-activities. As this study points out, the unit cost of Salalumduan PCU in Sakaeo is calculated by the ABC method and therefore the unit cost can be allocated to the sub-activity. The problem of such a cost allocation is that it needs a lot of detailed information which is not always available.

#### 5.4 Decentralization of health system to the Local Administrative Organizations

The decentralization of public services to the local administration organizations is only one part of the legislation but a more important component in the legislation is the goal to increase the proportion of revenue of the local administration to 20% of total public revenue in 2001 and 35% of total public revenue in 2006 (23).

In the FY 2003 the MoPH decentralized the health system to the local administrative organizations. In Thailand 56.48% of the health system was successfully decentralized and as a result many local administrative organizations can manage community health by themselves. This result exceeds the national goal of

20% (42). The municipality and the TAO in Sakaeo province were also decentralized according to the national policy. Salalumduan PCU received the fund from both municipality and TAO to support P&P campaigns such as action against DHF, action against rabies, and action against diabetes and hypertension (HT). The campaigns accounted for 14.4% of the total cost of P&P in Salalumduan PCU and the results were successful as below (44):

1) Action against DHF

The action against DHF campaign was conducted to cover the whole area of Salalumduan or 792 households. There is a committee for DHF control in sub-district level for surveillance and follow up in case of an epidemic. TAO provided funding and a fumigation machine. The municipality provided funding.

2) Action against Rabies

TAO provided rabies vaccines in kind (1,800 doses, needles for vaccines and a label for each vaccinated dogs). The municipality supported also in kind and managed the rabies vaccination by themselves. In Salalumduan catchment area 350 dogs were vaccinated.

3) Action against Diabetes and Hypertension

Salalumduan PCU received funds from TAO and Municipality to cover 58% of people who have diabetes and HT.

As noted, the TAO and the municipality cooperated well with PCU to improve the health services especially in P&P. the TAO and the municipality have a high potential to cooperate with other local resources for development in health in the future; on the other hand the TAO and the municipality still have to build capacity of their staff on the health system and on financial skills to make their activities more transparent.

### 5.5 The PCU network system

Under the PCU standard, the PCU criteria are a coverage area of at least 10,000 people, allocation of health personnel for treatment activities, and sharing of resources within the PCU network (45).

Salalumduan PCU consists of 3 health centers such as Salalumduan health center (PCU), Kao Maka health center and Nongsai health center. They are cooperated together in community and family survey activity, home visit activity and all campaigns that receive funding from the TAO. The individual work in other activities is on-going and managed with a proper number of staff and within a limited time. The data of the three health centers are composed for the final report and submitted to the PCU along with a request for funding. Regarding the PCU standard, Salalumduan PCU can complete all the management systems within 5 years.

## CHAPTER VI

### CONCLUSION AND RECOMMENDATION

#### 6.1 Conclusion

The ninth National Economic and Social Development Plan (2002-2006) focuses on health sector reforms and wishes to achieve major changes in structure and budgetary system to achieve result-based management (4). This study attempted to contribute to these reforms by introducing an Activity-based Costing method which indicates how much money was spent on different health care activities. The calculations of unit cost, batch level cost, product sustaining level cost and facility sustaining level cost were clearly described and give a comprehensible picture of the nature of the respective product.

The ABC methodology allows management to obtain more accurate costing information. Decision makers will utilize costing information for staffing decisions, for pricing decisions, for capital budget decisions and for strategic planning direction. Thus more accurate costing information takes on a high priority.

The Salalumduan PCU emphasizes prevention and promotion activities of primary health care, which is in line with the MoPH policy. The Salalumduan PCU is the most outstanding PCU in Sakaeo Province and that is why this PCU was considered for the ABC study. The objective of study was to analyze the unit cost in P&P activities at Salalumduan PCU in FY 2003. The total cost of P&P was 1,186,497.59 baht and the labor cost of was equal to 764,165.1 baht. The operating cost and capital cost under funding supported by the government was 101,055.86 baht and 167, 86.81 baht.

Most of the PCU budget in FY 2003 was spent on labor cost (54.40%). According to the results of data analyses from 0110 Ror Ngor 5 in Sakaeo Province

during October 2002 to July 2003, the sub-contractors average of Sakeo CUP spent 71.51% on labor cost and the Thai national average labor cost is 71.01% of the total cost (41). This means that Salalumduan PCU spent less on labor cost than other PCUs although the level of achievement was outstanding.

The facility sustaining level cost at Salalumduan PCU is an acceptable as 22.43% of the total cost and the Salalumduan PCU opening hours per day exceeds the national standard. The proportion of labor cost and total income is less than the average in Thailand and the proportion of government budget per total income has lower than the average of Thailand implies that a higher budget obtain from additional funding from local resources. The lowest unit cost was in sanitation and environmental health services sub-activity and the highest unit cost can be found in the sanitation and environmental health services sub-activity at 6917.03 baht per time.

For implementing ABC in other PCUs, proper data recording and time is required. Joint cost sharing of the respective activities should be considered and proper cost drivers should be used. A variety of local resources in Salalumduan PCU have been identified and well cooperation between these resources and the PCU saves time to manage ABC should be considered.

## **6.2 Recommendation**

### **6.2.1 Recommendations for action:**

In relation to the result and conclusions of this study, the following recommendations are purposed to further improve the PCU's (financial) status. There are 3 levels to be addressed such as PCU level, PHO level and the national level.

#### **a) Recommendations for action at Salalumduan PCU**

- 1) The use of vaccine for the dogs in action against Rabies campaign should have the proper plan to request the vaccine from the Municipality.

- 2) Many local organizations can help the PCU to improve health in local communities thus PCUs who want to implement ABC should work together with local people and organizations like the VHVs, Village Livestock Volunteers, TAO, the Municipality, pagodas, schools, agricultural department, and NGO's. This cooperation will benefit the PCU for collecting health data and sharing health costs.
- 3) The activity dictionary can help the researcher to define the different health activities and calculate cost allocation. The information of the activities dictionary should focus on the activities that have been done by the PCU.
- 4) Financing is a sensitive issue; it is not easy for a researcher working outside the PCU to collect data related to the activities dictionary. Therefore it is advised that the ABC methodology should be conducted by staff within the PCU.

**b) Recommendations for administration department at PHO level**

- 1) The ABC procedures are very detailed so PHO staff needs to train PCU staff on collecting data frequently and recording these data systematically.
- 2) For implementing ABC the staff's workload increases. Therefore it is recommended to hire extra PCU staff for ABC data collection and administration.

**c) Recommendation for national level**

- 1) Support from high level health institutions is essential to manage the implementation of the ABC system. PHO staff needs to be trained and supervised when they conduct ABC research and administer the data.
- 2) Because ABC is a method that enables PCU management to manage PCU staff efficiently and control the PCU budget effectively, it is recommended that this costing method should be standardized in Thailand.

### 6.2.2 Recommendation for further study

In the ABC analysis of Salalumduan PCU case study it was found that further study needs to focus on:

- 1) Calculating the cost according to the level of resources such as PHO, CUP and DHO.
- 2) The possibility to implement ABC in other PCUs in Thailand.
- 3) The labor cost of each staff and the actual total hours that they worked during a year could be calculated carefully and distinguish priority. This is to obtain clear and not overlapping data on the high cost in this study and can be used to let PCU staff work more efficiently.
- 4) Calculating and separating the cost of P&P and treatment. This ABC study only focused on P&P activities, so treatment should be included to obtain all ABC data. The data related to exposure visits should also be included.
- 5) Conducting the ABC method continuously over a longer period of time. If ABC is conducted over a period of a least 3 years, the health staff will understand about ABC clearly and apply the method more properly.
- 6) Separating the budget allocation noticeably from the TAO and the municipality in cash and in kind.
- 7) Using the data collection standard forms obtained from the Government Financial Management Information system (GFMIS) will be support for ABC method in future.

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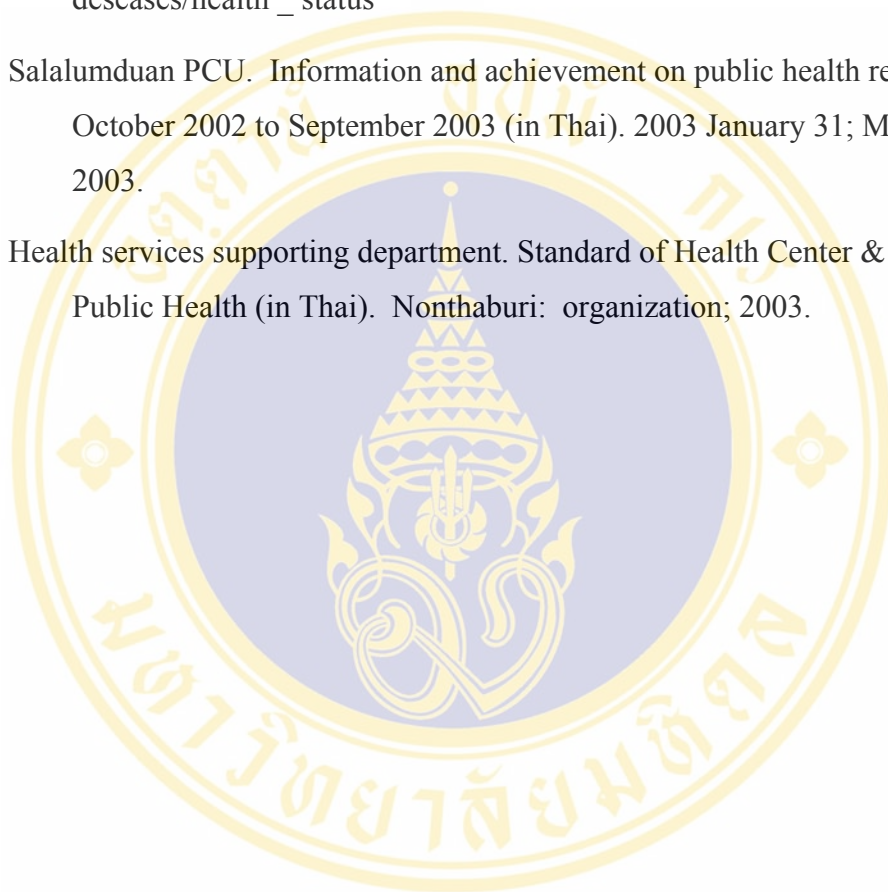
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**Activities Dictionary of Salalumduan Primary Care Unit**

Activities	Details	Executing institute	Amount	Unit
<b>1. Health Promotion</b>				
<b>1.1 Community Health Promotion Services</b>				
<b>1.1.1 Community Health Promotion</b>				
<b>1.1.1.1 Community and Family Survey</b>				
<ul style="list-style-type: none"> <li>• Community and family data collection</li> </ul>	Summarize data for family folders. Data entry in computer. Update data.	PCU	12	Times
<ul style="list-style-type: none"> <li>• Family folder registration</li> </ul>	Summarize data for families in communities. Analyze data and socio-economic status of communities, villages and sub-districts.	PCU	12	Times
<ul style="list-style-type: none"> <li>• Planning</li> </ul>	Staff planning meeting with 3 HCs. Make a survey plan for 3 HCs.	PCU, 2HCs	12	Times
<ul style="list-style-type: none"> <li>• Conduct survey</li> </ul>	Prepare data for family folders. Conduct interviews in communities. Collect data.	PCU, 2HCs	771	Households
<ul style="list-style-type: none"> <li>• Health needs and community health problem analysis (not yet done in 2003)</li> </ul>	Write a report on the health needs of the people.	PCU	-	Reports
<ul style="list-style-type: none"> <li>• Plan</li> </ul>	Not written in 2003.			
<ul style="list-style-type: none"> <li>• Supervision</li> </ul>	DHO monitors, records and updates family folders.	DHO, PCU		
<ul style="list-style-type: none"> <li>• Exercise project</li> </ul>	The villagers do physical exercises 4 days per week.	PCU, VHV	208	Times

Activities	Details	Executing institute	Amount	Unit
<b>1.1.2 Population Health Promotion</b>				
<b>1.1.2.1 School Health</b>				
<ul style="list-style-type: none"> <li>Data survey of students</li> </ul>	Cooperate with school staff to collect data from students. The health teacher surveys the number of students in grade 1 and grade 6 divided by gender.	PCU	1	Time
<ul style="list-style-type: none"> <li>School health plan</li> </ul>	Make a list of targeted students from grade 1 to grade 6. Make an operational plan that describes dates and places.	PCU	1	Time
<ul style="list-style-type: none"> <li>Body check up for student</li> </ul>	Body check up once a year. Provide health education to students.	PCU	551	Students
<ul style="list-style-type: none"> <li>Weighting/height</li> </ul>	Measure the weight and height and evaluate the health status of grade 1 to grade 6 students every 3 month.	PCU	551	Students
<ul style="list-style-type: none"> <li>Vaccination</li> </ul>	Provide health education before vaccination. Stimulate all grade 1 students to be vaccinated against DT and MMR once a year.	PCU	59	Students
	Stimulate all grade 6 students to be vaccinated against DT once a year.		81	
	Vaccinate student against BCG who have never received this vaccination before.		0	
	Vaccinate OPV and DT in 1 <sup>st</sup> and 2 <sup>nd</sup> sharp (duration between the 1 <sup>st</sup> and 2 <sup>nd</sup> sharp is 2 months).		0	
	Follow up on students who do not show up for vaccination.			
<ul style="list-style-type: none"> <li>Iodine check</li> </ul>	Check Iodine deficiency once a year of students from grade 1 to grade 6.	PCU	423	Students
<ul style="list-style-type: none"> <li>Evaluation and report</li> </ul>	Analyze data and write a report twice a year.	PCU	2	Reports
<ul style="list-style-type: none"> <li>Supervision</li> </ul>	DHO and PHO monitor.	PCU, DHO, PHO		

Activities	Details	Executing institute	Amount	Unit
<p><b>1.1.2.2 Dental Public Health</b></p> <ul style="list-style-type: none"> <li>Dental health in PCU</li> </ul>	<p>Daily prevention of caries in the morning. Provide dental health education.</p> <p>Dental health care service for clients and pregnant women.</p> <p>Provide dental health education in the child health clinic every second Thursday of month.</p> <p>Provide dental health care education to groups of pregnant woman every Tuesday.</p> <p>Do the mother and child dental health care activity of the King's Mom "102 years project" by following up on mother and their children under 3 years of age and by letting them use the services.</p> <p>Dental check up for every pregnant woman who receives ANC in the PCU.</p> <p>Provide dental health care education for pregnant women.</p> <p>Take care of the dental health care of children less than 3 years of age.</p>	<p>PCU</p> <p>-</p> <p>PCU</p> <p>PCU</p> <p>PCU</p> <p>PCU</p> <p>PCU</p> <p>PCU</p> <p>PCU</p>	<p>3195</p> <p>-</p> <p>69</p> <p>32</p> <p>-</p> <p>222</p>	<p>persons</p> <p>-</p> <p>Children</p> <p>persons</p> <p>Children</p>
<ul style="list-style-type: none"> <li>Community Dental Health</li> <li>School Dental Health</li> </ul>	<p>Provide dental health care education to community members and cooperate with Village Health Volunteers.</p> <p>Manage the health education board in the PCU.</p> <p>Provide dental health care education to school children on the use of toothbrush and toothpaste.</p> <p>Dental check up according to the "Tor Sor 001" observing system and train health teachers to check children's teeth and collect data by using the "Tor Sor 002" form.</p>	<p>PCU, VHV</p> <p>PCU, VHV</p> <p>PCU</p> <p>PCU</p>	<p>12</p> <p>1</p> <p>3</p> <p>423</p>	<p>Times</p> <p>Times</p> <p>Groups</p> <p>Students</p>

Activities	Details	Executing institute	Amount	Unit
<ul style="list-style-type: none"> <li>• Supervision</li> </ul>	<p>Collect data from “Tor Sor 002” and write a report based on the form “Tor Sor 003” .</p> <p>PHO monitors and supervises.</p>	PCU	3	Reports
<p><b>1.1.2.3 Maternal and Child Health</b></p> <ul style="list-style-type: none"> <li>• Survey on pregnant women</li> </ul>	<p>Collect data of pregnant woman through interviews conducted by Village Health Volunteers in October and register them for the monthly follow up activities.</p> <p>ANC services at PCU</p>	PCU, PHO		
<ul style="list-style-type: none"> <li>• Pregnancy registration services</li> </ul>	<p>Conduct interviews based on the family folders and the “Ror Bor 1 Tor 05” forms.</p> <p>Do a pregnant woman assessment on the 20 risk factors from the mother book. In case mothers are at risk, they should be referred to a doctor.</p> <p>Measure the blood pressure and weight pregnant women. In case a pregnant woman is at risk, she should be referred to a doctor.</p> <p>Height measurement for BMI.</p> <p>Body check up and mammal check up for pregnant woman</p> <p>Give advice before doing a blood test.</p> <p>Do a blood test at the first ANC of pregnant women to see if there are any problems related to: OF, DCIP, HIV, VDRL, HB, Ag, Het, BLgn and transfer to the hospital if necessary.</p>	PCU	12	Times
		PCU	32	Pregnant women

Activities	Details	Executing institute	Amount	Unit
<ul style="list-style-type: none"> <li>• Check abdomen of pregnant women every time they visit during the first 6 months and make an appointment once a week.</li> <li>• 7 month, make an appointment once a month.</li> <li>• 8 month, make an appointment twice a month.</li> <li>• 9 month, make an appointment every week.</li> <li>• Distribute medicines and vaccinate pregnant women for TT.</li> <li>• First pregnancy cases should be vaccinated 3 sharps.</li> <li>• Record in the family folder, "Ror Bor 1 Tor 05" form, and HICS.</li> </ul>	<ul style="list-style-type: none"> <li>• Follow up on non registration pregnant women</li> </ul>	PCU	8	Persons
<ul style="list-style-type: none"> <li>• Follow up on post-delivery</li> </ul>	<ul style="list-style-type: none"> <li>• Record the result in the family folder and "Ror Bor 1 Tor 05" folder.</li> <li>• Follow up 2 times on women after delivery, check their blood pressure, womb, lochia, breast, wounds, and provide health education.</li> <li>• 1-2 weeks, visit 1 time</li> <li>• 2 weeks, visit 1 time</li> <li>• Make an appointment directly after the delivery.</li> <li>• After 1-2 weeks, visit 1 time.</li> <li>• After two more weeks, visit 1 time for vaccination.</li> <li>• DHO and PHO monitor and supervise.</li> </ul>	PCU	32	persons
<ul style="list-style-type: none"> <li>• Follow up on the baby after delivery</li> <li>• Supervision</li> </ul>		PCU, DHO,PHO	32	Babies

Activities	Details	Executing institute	Amount	Unit
<b>1.1.2.4 Immunization</b> <ul style="list-style-type: none"> <li>• Survey</li> </ul>	<p>Village Health Volunteers do a survey to collect information on new born children and migrant children in their catchment area and register them.</p> <p>Collect delivery reports from the community hospital and transfer the referral patients to other hospitals.</p>	PCU, VHV	12	Times
<ul style="list-style-type: none"> <li>• Immunization plan</li> </ul>	<p>Make a list of children in the HC catchments area and record their personal data.</p> <p>Make a request for vaccines from district health office and organize logistics.</p> <p>Set a date to receive the vaccines.</p>	PCU	12	Reports
<ul style="list-style-type: none"> <li>• Vaccination</li> </ul>	<p>Vaccinate children from 1.5 to 2 years old on Thursday once a month.</p> <p>Follow up on absent infants and write a report about the vaccinations to the hospital.</p>	PCU	24	Children
<ul style="list-style-type: none"> <li>• Conclusion and report</li> </ul>	<p>Evaluate the coverage of vaccination of children under the age of 1 and write a report.</p> <p>Report to the District Health Office.</p> <p>Keep records in the PCU.</p>	PCU	45	Reports
<ul style="list-style-type: none"> <li>• Monitor and Supervision</li> </ul>	<p>DHO and PHO monitor and supervise.</p>	PCU, DHO, PHO		

Activities	Details	Executing institute	Amount	Unit
<b>1.1.2.5 Family Planning</b> <ul style="list-style-type: none"> <li>• Survey</li> </ul>	Conduct a survey on reproductive women between 15 and 44 years of age in the HC's catchments area and keep records of these women.	PCU	1	Times
<ul style="list-style-type: none"> <li>• Family planning services and following up</li> </ul>	Interview family members. Check blood pressure and measure their weight every visit. Provide health education on doing a body self-check such as mammal check up and types of contraceptive.	PCU	556	Persons
<ul style="list-style-type: none"> <li>• Records data</li> </ul>	Provide services related to contraception such as contraceptive pill, contraceptive injection, loop, and following up, etc. Register patients. Register reproductive women and men. Data entry in computer.	PCU	556	persons
<ul style="list-style-type: none"> <li>• Evaluating</li> </ul>	Analyze data from the HCIS. Evaluate every 6 months and check the coverage of contraception services for reproductive women.	PCU	2	Times
<ul style="list-style-type: none"> <li>• Supervision</li> </ul>	DHO and PHO monitor and supervise.	PCU, DHO, PHO		
<b>1.1.2.5 Nutrition</b> <ul style="list-style-type: none"> <li>• Survey</li> </ul>	Conduct a survey and register children under 5 years of age.	PCU, VHV	2	Times
<ul style="list-style-type: none"> <li>• Weighting/height/</li> </ul>	Follow up on the weight/height data every 3 months in villages. Health education is provided during weight/height	PCU, VHV	222	persons
<ul style="list-style-type: none"> <li>• Analyze and conclusion</li> </ul>	Evaluate every 3 months. Write a report.	PCU	4	reports

Activities	Details	Executing institute	Amount	Unit
<ul style="list-style-type: none"> <li>Monitor and Supervision</li> </ul>	DHO and PHO monitor and supervise.	PCU, DHO, PHO		
<b>1.1.2.6 Consumer Protection</b>				
<ul style="list-style-type: none"> <li>Survey</li> </ul>	<p>Conduct food surveys in shops, restaurants, food shops, villages and schools.</p> <p>Keep records.</p> <p>Report the results to the District Health Office and keep 1 copy in the HC.</p> <p>Cooperate with other organizations such as the Municipality.</p> <p>Record date, time, and place of the conducted food tests.</p> <p>Implement activities such as inspecting food contamination and evaluating the physical situation of restaurants and food shops.</p> <p>Request food safety tools from the District Health Office.</p>	PCU	1  3 times	Time/year
<ul style="list-style-type: none"> <li>Consumer Protection Plan</li> </ul>	<p>Request food safety tools from the District Health Office.</p> <p>Follow up on the health messages from the media that uses the slogan: “Clean food, good test and food safety”. Also provide health education related to the slogan.</p> <p>Inspect the physical situation of restaurants and food shops.</p> <p>Conduct random tests to avoid food contamination in community and schools by using Borax and Formalin.</p> <p>Collect information and write a report to the Provincial Public Health Office.</p> <p>DHO and PHO monitor and supervise.</p>	PCU	3	Plans
<ul style="list-style-type: none"> <li>Operating</li> </ul>		PCU, VHV	47	Shops
<ul style="list-style-type: none"> <li>Evaluation</li> </ul>		PCU	3	Reports
<ul style="list-style-type: none"> <li>Monitor and Supervision</li> </ul>		PCU, DHO, PHO		

Activities	Details	Executing institute	Amount	Unit
<p><b>1.1.3 Prevention and Controlling Diseases</b></p> <p><b>1.1.3.1 Sanitation and Environmental Health</b></p> <ul style="list-style-type: none"> <li>Assessment</li> </ul>	<p>VHV and Public Health staff conduct a survey on the basic minimum need in communities.</p> <p>Use the family folders in the survey.</p> <p>Use the computer to analyze the HCIS data for the respective villages.</p>	<p>PCU, VHV</p>	<p>935</p>	<p>Households</p>
<ul style="list-style-type: none"> <li>Health Need Analysis</li> </ul>	<p>Analyze the data from the family folders with the computer</p> <p>Set priorities to solve the problems.</p> <p>Conduct a need assessment in the respective villages and communities.</p> <p>Provide health education and ask for necessary tools and equipment.</p>	<p>PCU</p>	<p>4</p>	<p>Times</p>
<ul style="list-style-type: none"> <li>Sanitation and environment health services</li> </ul>	<p>The community is involved in observing sanitation and environment in the community and should solve problems.</p> <p>Coordinate with other organizations like the Municipality.</p> <p>Test the water quality in the villages.</p> <p>Write a report to the District Health Office twice a year</p>	<p>PCU, VHV</p>	<p>2</p>	<p>Reports</p>
<ul style="list-style-type: none"> <li>Monitor and Supervision</li> </ul> <p><b>1.1.3.2 Epidemiology</b></p> <ul style="list-style-type: none"> <li>Collecting data</li> </ul>	<p>DHO and PHO monitor and supervise.</p> <p>Write the reports E0, E1, E2, E3 from the “Ror Bor 506” form.</p>	<p>PCU, DHO, PHO</p>	<p>58</p>	<p>Reports</p>

Activities	Details	Executing institute	Amount	Unit
<ul style="list-style-type: none"> <li>Data analysis and planning</li> </ul>	<p>Make a spot map on existing diseases in the respective villages.</p> <p>Analyze epidemiological data.</p> <p>Analyze epidemiological data and assess the situation of the disease.</p> <p>Analyze data to detect the cause and trends of diseases such as HI and CI.</p> <p>Analyze the data of the respective areas and set priorities.</p> <p>Plan how to solve the problem and follow up.</p> <p>Cooperate with the VHVs to observe and let them write reports.</p> <p>In case of an outbreak, the District Health Office and Hospital should be informed as soon as possible.</p> <p>DHO and PHO monitor and supervise.</p>	PCU	5	persons
<ul style="list-style-type: none"> <li>Surveillances and monitoring</li> </ul>			52	Reports
<ul style="list-style-type: none"> <li>Supervision</li> </ul>		PCU, DHO, PHO		
<p><b>1.1.3.3 Communicable Disease Prevention and Control</b></p> <ul style="list-style-type: none"> <li>Survey</li> </ul>	<p>Check HI, CI and other indexes in communities.</p> <p>Record the infected patients.</p>	PCU, VHV	935	Households
<ul style="list-style-type: none"> <li>Planning</li> </ul>	<p>Corporate with the concerning organization to prevent the disease.</p> <p>Set a date, time and place to organize a campaign in communities, schools and temples.</p> <p>Write a plan to solve problems jointly with other organizations like the Municipality.</p>	PCU	1 project	Plans
			2 plans	

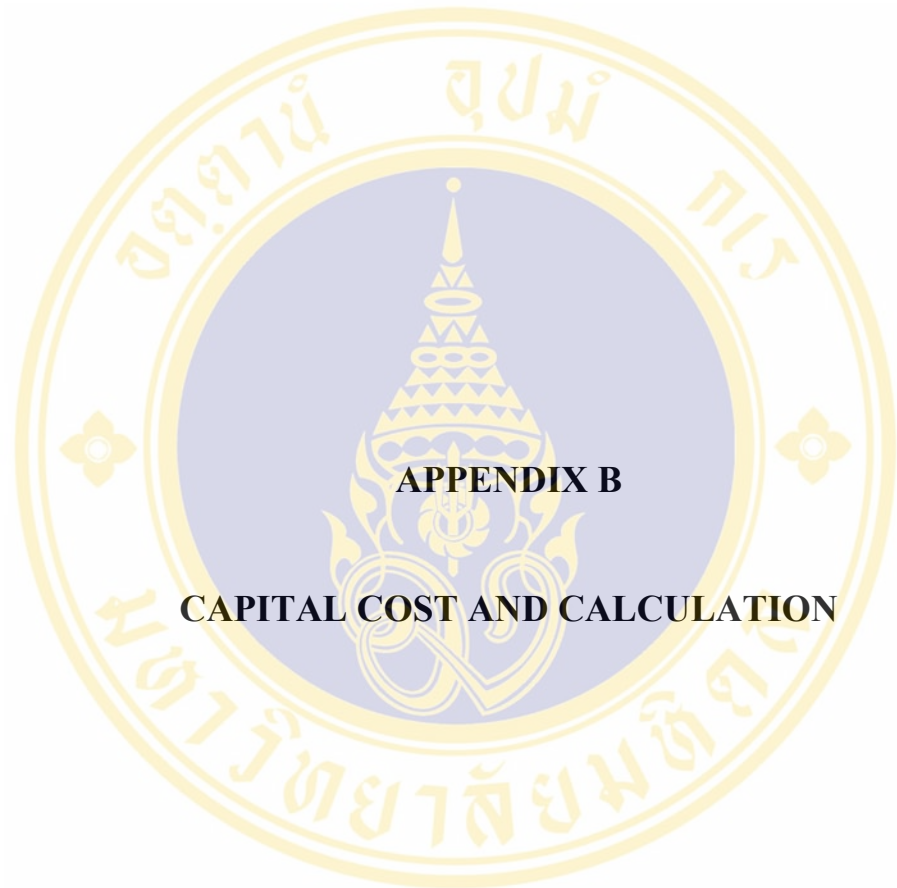
Activities	Details	Executing institute	Amount	Unit
<ul style="list-style-type: none"> <li>Communicable diseases campaign</li> </ul>	<p>Operate a campaign against DHF with VHVs and distribute Abate sand, posters and leaflets to communities, schools and temples.</p> <p>Survey and check water container and environment according the HI and CI.</p> <p>Fumigation of houses against DHF.</p> <p>Provide health education in communities, schools and temples.</p> <p>Cooperate with the Village Livestock Volunteers and VHVs to vaccinate 350 dogs against Rabies and provide each vaccinated dog a registration label.</p> <p>Follow up on patients after providing treatment.</p> <p>Register the dogs and provide labels.</p> <p>Operate a campaign against HIV/AIDS.</p> <p>Distribute condoms and provide health education in PCU.</p>	<p>PCU, VHV</p> <p>PCU, Lives stock volunteers</p> <p>PCU</p> <p>PCU</p> <p>PCU, DHO, PHO</p>	<p>790</p> <p>350</p> <p>68</p> <p>4</p>	<p>Household</p> <p>Dogs</p> <p>Persons</p> <p>Reports</p>
<p><b>1.1.3.4 Non-communicable Disease Prevention and Control</b></p>				
<ul style="list-style-type: none"> <li>Data collection</li> </ul>	<p>VHV registers the non-communicable disease patient by the respective village and passes on information to the PCU.</p>	<p>PCU, VHV</p>	<p>5</p>	<p>Villages</p>
<ul style="list-style-type: none"> <li>Planning</li> </ul>	<p>Plan to provide health education to individuals in the respective villages.</p>	<p>PCU</p>	<p>1</p>	<p>Reports</p>

Activities	Details	Executing institute	Amount	Unit
<ul style="list-style-type: none"> <li>Conduct pap smear hypertension diabetes and mammal check up</li> </ul>	Do pap smears during home visit.	PCU	26	persons
	Provide health education in communities.	PCU	230	Persons
<ul style="list-style-type: none"> <li>Evaluation</li> <li>Monitor and Supervision</li> </ul>	HT and diabetes check up for people aged above 40 years old.	PCU	26	Persons
	Advise the target group to check up every 3 months. Refer the cases to the doctor in the PCU.	PCU, VHV	1	Reports
<b>1.1.3.5 Mental Health and Drug Control</b> <ul style="list-style-type: none"> <li>Data collection</li> </ul>	Educate the reproductive women on mammal check up during home visit individual.	PCU, DHO, PHO		
	Evaluate data.	PCU, VHV		
<ul style="list-style-type: none"> <li>Planning</li> </ul>	DHO and PHO monitor and supervise.	PCU, VHV	42	Persons
	Conduct a survey and record the mental health patients from the respective villages including new cases and give advice. VHV's conduct a survey on drug abuse in their catchment area and write a report.	PCU, VHV	25	Persons
	Conduct a survey and record drug patients. Collect data from other organizations concerning the use of drugs.			
	Organize treatment by the Matrix program in the PCU and villages.	PCU, VHV	24	Plans
	Coordinate with the concerned organizations to organize activities.			

Activities	Details	Executing institute	Amount	Unit
<ul style="list-style-type: none"> <li>Rehabilitation</li> </ul>	<p>Advise people on mental health. Refer patients to Sakaeo Hospital or Sakaeo Srinakharin Mental hospital.</p>	PCU	20	Persons
<ul style="list-style-type: none"> <li>Follow up and evaluation</li> </ul>	<p>Follow up on patients after they have received treatment by the Matrix program at least four times per year including the patients who have not received treatment yet. Collect specimen of drug tests and send it to the District Health Office which will conduct random sampling of drugs. Follow up on the patients and advise them to continue to take medication. Write a report. DHO and PHO monitor and supervise.</p>	PCU, VHV	2-pre 2-post 20 20	Reports persons persons
<ul style="list-style-type: none"> <li>Monitor and Supervision</li> </ul>		PCU, DHO, PHO		
<p><b>1.1.4 Community Health Promotion</b></p>				
<p><b>1.1.4.1 Health Education</b></p>				
<ul style="list-style-type: none"> <li>Health Education in PCU</li> </ul>	<p>Organize an information board and provide health education in the PCU. Provide health education to individuals and groups.</p>	PCU	4 11	Times Times
<ul style="list-style-type: none"> <li>Community health education</li> </ul>	<p>Organize an information board. Broadcast health education by loudspeaker and spread information in the villages through VHV's.</p>	PCU, VHV	60 24	Times Times
<ul style="list-style-type: none"> <li>School health education</li> </ul>	<p>Organize an information board and make propaganda. Coordinate with schools to provide health education on diseases.</p>	PCU	36	Times

Activities	Details	Executing institute	Amount	Unit
	Provide materials to schools for managing the information board.			
• Monitor and Supervision	DHO and PHO monitor and supervise.	PCU, DHO, PHO		
<b>1.1.4.2 Home visit</b>				
• Survey and consults	Check the population data from HCIS. Make a schedule to visit. Conduct a survey to get information on the health problems and socio-economic status of people in the PCU catchment area and consult people in case of health problems.	PCU	771	Households
• Monitor and Supervision	DHO and PHO monitor and supervise.	PCU, DHO, PHO		
<b>2. Quality development</b>				
<b>2.1 Administration</b>				
<b>2.1.1 Cooperation / Administration</b>				
• Set up mission	Develop a PCU mission by referring to the quality of service. Meeting within PCU.	PCU		
• Finance	Write a financial report. Write receipts and record these in report number 401, 404 and 407 Summarize monthly income and expenses.	PCU		
• Report	Make an inventory of materials and equipment. Audit the list yearly.	PCU		
• Administration and documentation	Send and receive messages. Manage documents according to the PSO system.	PCU		
• Coordination	Coordinate and network with the District Health Office.	PCU		

Activities	Details	Executing institute	Amount	Unit
<ul style="list-style-type: none"> <li>Evaluation</li> </ul>	Coordinate with organization such as TAO, agricultural school and community leaders. Write a yearly report and inform the public about the results. Write a monthly progress report for 3 HCs.	PCU		
<b>2.2 Human Resource Development</b>				
<b>2.2.1 Meeting and Conference</b>				
<ul style="list-style-type: none"> <li>Health team</li> </ul>	CUP conducts training to improve the capacity of the health team and their staff	CUP, PCU		
<ul style="list-style-type: none"> <li>Meeting and presentation at CUP</li> </ul>	Attend the extra-ordinary meeting at the CUP.	PCU		
<ul style="list-style-type: none"> <li>Meeting at PCU</li> </ul>	Attend the monthly meeting at the PCU.	CUP, PCU		
<ul style="list-style-type: none"> <li>VHV meeting in PCU</li> </ul>	Build the capacity of VHV's	CUP		
<b>2.2.2 Technical / Supervision / Evaluation</b>				
<ul style="list-style-type: none"> <li>Inventory and writing reports</li> </ul>	Check the inventory.	PCU		
<ul style="list-style-type: none"> <li>Monitoring and evaluation</li> </ul>	PHO monitors and evaluates PCU activities.	PHO		
<ul style="list-style-type: none"> <li>Award a prize for outstanding PCU performance</li> </ul>	The District Health Office committee awards outstanding PCUs.	PCU, DHOs		



**Form B1: Capital cost**

Salalumduan Primary Care unit

Sakeo Province

Fiscal year 2003

Code	Activities	Pick up	Building	Computer	Grass cutter	Tape player for car	Amplifier, speaker, radio	Sugar tester	Total
1	Community and Family Survey	4,680.30	-	740.07	94.15	75.65	3200	0	8,790.17
2	School Health	2,340.15	-	348.08	44.28	35.58	0	0	2,768.10
3	Dental Public Health	936.06	7,194.55	686.76	87.37	70.20	0	0	8,974.95
4	Maternal and Child Health	2,340.15	19,335.36	242.51	30.85	24.79	0	0	21,973.66
5	Immunization	2,340.15	14,389.11	274.91	34.98	28.10	0	0	17,067.25
6	Family Planning	1,404.09	8,993.19	364.81	46.41	37.29	0	0	10,845.79
7	Nutrition	1,404.09	-	219.51	27.93	22.44	0	0	1,673.97
8	Consumer Protection	1,404.09	-	233.10	29.66	23.83	0	0	1,690.67
9	Sanitation and Environmental Health	1,404.09	-	190.24	24.20	19.45	0	0	1,637.98
10	Epidemiology	936.06	-	217.42	27.66	22.23	0	0	1,203.37
11	Prevention and control of Communicable Disease	8,424.54	-	152.61	19.42	15.60	0	0	8,612.17
12	Prevention and control of Non-Communicable Disease	1,404.09	-	140.07	17.82	14.32	0	490	2,066.30
13	Mental Health and Drugs Abuse Prevention	2,808.18	-	315.68	40.16	32.27	0	0	3,196.29
14	Health education	2,340.15	7,194.55	250.87	31.92	25.64	0	0	9,843.14
15	Home Visit	4,680.30	-	305.23	38.83	31.20	0	0	5,055.56
16	Treatment in PCU	1,404.09	76,442.13	2,078.05	264.37	212.42	0	490	80,891.07
17	Referral	1,872.12	-	85.71	10.90	8.76	0	0	1,977.50
18	Administration	936.06	34,174.13	1,336.93	170.09	136.66	0	0	36,753.88
19	Conference and meeting	2,340.15	20,684.34	729.62	92.82	74.58	0	0	23,921.52
20	Monitoring and Evaluation	1,404.09	-	87.80	11.17	8.98	0	0	1,512.04
	<b>Total</b>	<b>46,803.00</b>	<b>188,407.38</b>	<b>9,000.00</b>	<b>1,145.00</b>	<b>920.00</b>	<b>3,200.00</b>	<b>980.00</b>	<b>250,455.38</b>

## Form B3: Capital cost-Sharing of Building

Salalumduan Primary Care unit

Sakeo Province

Fiscal year 2003

### Salalumduan PCU used for Prevention and Health Promotion

Building cost in fiscal year 2003 188,407.38 baht

Total Area of the building 419 M<sup>2</sup>

Code	Activities	Area (m <sup>2</sup> )	Proportion %	Annual cost (baht)
1	Community and Family Survey		0	-
2	School Health		0	-
3	Dental Public Health	16	4	7,194.55
4	Maternal and Chaild Health	43	10	19,335.36
5	Immunization	32	8	14,389.11
6	Family Planning	20	5	8,993.19
7	Nutrition		0	-
8	Consummer Protection		0	-
9	Sanitation and Environmental Health		0	-
10	Epidemiology		0	-
11	Prevention and control of Communicable Disease		0	-
12	Prevention and control of Non-Communicable Disease		0	-
13	Mental Health and Drugs Abuse Prevention		0	-
14	Health education	16	4	7,194.55
15	Home Visit		0	-
16	Treatment in PCU	170	41	76,442.13
17	Referral		0	-
18	Administration	76	18	34,174.13
19	Conference and meeting	46	11	20,684.34
20	Monitoring and Evaluation		0	-
<b>Total</b>		419	100	188,407.38

## Form B4: Capital cost-Sharing of Vehicle and Fuel

Salalumduan Primary Care unit

Sakeo Province

Fiscal year 2003

### Salalumduan PCU used for Prevention and Health Promotion

Total Pick-up cost 340,000.00 baht

Pick up cost in fiscal year 2003 34,000.00 baht

Repair & Maintenance in 2003 12,803.00 baht

**Total Capital cost-Pick-up cost** 46,803.00 baht

**Total Recurrent cost- fuel** 17,500.00 baht

Code	Activities	Time spent %	Annual cost (baht)	Fuel
1	Community and Family Survey	10	4,680.30	1,750.00
2	School Health	5	2,340.15	875.00
3	Dental Care	2	936.06	350.00
4	Maternal and Chaild Health	5	2,340.15	875.00
5	Immunization	5	2,340.15	875.00
6	Family Planning	3	1,404.09	525.00
7	Nutrition	3	1,404.09	525.00
8	Consumer Protection	3	1,404.09	525.00
9	Sanitation and Environmental Health	3	1,404.09	525.00
10	Epidemiology	2	936.06	350.00
11	Prevention and control of Communicable Diseases	18	8,424.54	3,150.00
12	Prevention and control of Non-Communicable Diseases	3	1,404.09	525.00
13	Mental Health and Drugs Abuse Prevention	6	2,808.18	1,050.00
14	Health education	5	2,340.15	875.00
15	Home Visit	10	4,680.30	1,750.00
16	Treatment in PCU	3	1,404.09	525.00
17	Referral	4	1,872.12	700.00
18	Administration	2	936.06	350.00
19	Conference and meeting	5	2,340.15	875.00
20	Monitoring and Evaluation	3	1,404.09	525.00
<b>Total</b>		<b>100</b>	<b>46,803.00</b>	<b>17,500.00</b>

**Form B5: Labor Cost**

Salalumduan Primary Care unit

Sakaeo Province

Fiscal year 2003

**1. Salalumduan PCU****Health Personnel in Salalumduan PCU (Civil Servants)**

Items	Name / surname	level ( C )	Position	Salary	CSMBS	OT	Child school fee	Extra home - health care	Total
1	Staff 1	6	Public health Administrator	189,092.00	4,288.00	29,200.00	11,700.00	12,240.00	246,520.00
2	Staff 2	4	Community Public Health	99,581.00	373.00	29,350.00	0.00	13,200.00	142,504.00
3	Staff 3	4	Dental public Health	91,110.00	0.00	31,900.00	0.00	11,520.00	134,530.00
<b>Total</b>				<b>379,783.00</b>	<b>4,661.00</b>	<b>90,450.00</b>	<b>11,700.00</b>	<b>36,960.00</b>	<b>523,554.00</b>

**Government Employee**

Items	Name / surname	level ( C )	Position	Salary	Social security	OT	House allowance	Position extra	Total
1	Staff 4	-	Thai traditional massage	49,200	1,681	-	-	-	50,881
2	Staff 5	-	Computer-Entry Data	49,200	1,681	-	-	-	50,881
<b>Total</b>				<b>98,400</b>	<b>3,362</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>101,762</b>

## 2. Nongsai Health Center

Health Personnel in Nongsai Health Center (Civil Servants)

Items	Name / surname	level ( C )	Position	Salary	CSMBS	OT Project	Child school fee	Extra home - health care	Total
1	Staff HC1	6	Public Health Administrator	177,572.00	2,613.00	29,600.00	1,950.00	7,440.00	219,175.00
2	Staff HC2	2	Community Public Health	71,260.00	0.00	34,300.00	0.00	6,960.00	112,520.00
<b>Total</b>				<b>248,832.00</b>	<b>2,613.00</b>	<b>63,900.00</b>	<b>1,950.00</b>	<b>14,400.00</b>	<b>331,695.00</b>

## 3. Khao-Maka Health Center

Health Personnel in Khao-Maka Health Center (Civil Servants)

Items	Name / surname	level ( C )	Position	Salary	CSMBS	OT Project	Child school fee	Extra home - health care	Total
1	Staff HC3	6	Public Health Administrator	189,092.00	628.00	33,000.00	4,460.00	2,640.00	229,820.00
2	Staff HC4	5	Community Public Health	97,527.00	2,407.00	36,100.00	0.00	7,680.00	143,714.00
<b>Total</b>				<b>286,619.00</b>	<b>3,035.00</b>	<b>69,100.00</b>	<b>4,460.00</b>	<b>10,320.00</b>	<b>373,534.00</b>

#### 4. Zaer-Aor Health Center

##### Health Personnel in Khao-Maka Health Center (Civil Servants)

Items	Name / surname	Position	Salary	CSMBS	OT Project	Child school fee	Extra home - health care	Total	Working hours	Cost sharing
1	Staff ZA1	Health center Chief	185,280.00	0.00	18,000.00	0.00	0.00	203,280.00	4	466.77
2	Staff ZA2	Public Health officer	130,080.00	0.00	18,000.00	0.00	0.00	148,080.00	4	340.02
3	Staff ZA3	Public Health Administrator	93,660.00	2,670.00	18,000.00	0.00	0.00	114,330.00	4	262.53
4	Staff ZA4	Partitioner Nurse	78,360.00	0.00	18,000.00	0.00	0.00	96,360.00	4	221.26
<b>Total</b>			<b>487,380.00</b>	<b>2,670.00</b>	<b>72,000.00</b>	<b>0.00</b>	<b>0.00</b>	<b>562,050.00</b>		<b>1,290.59</b>

#### 4. District Health Office

##### Health Personnel (Civil Servants)

Items	Name / surname	Position	level (C)	Incentives	Salary	CSMBS	Per-diem	Child school fee	Position extra	Total	Working hrs	Total sharing
1	Staff D1	District Health Director	8	1,600.00	347,850.00	856.00	1,188.00	0.00	1,410.00	352,904.00	7	1,405.99
2	Staff D2	P&P Com and Non Com diseases		1,400.00	161,280.00	13,794.00	1,188.00	5,830.00	932.00	184,424.00	7	734.76
3	Staff D3	Administration and finance		1,600.00	180,480.00	5,699.00	1,188.00	0.00	932.00	189,899.00	7	756.57
4	Staff D4	FP, MCH, Nutrition		1,800.00	168,840.00	25,391.00	1,188.00	0.00	815.00	198,034.00	7	788.98
5	Staff D5	Mental Health, Consumer h.		1,000.00	235,530.00	4,743.50	1,188.00	6,690.00	1,135.00	250,286.50	7	997.16
6	Staff D6	P&P community, FP, MCH, Nutrition		1,600.00	75,030.00	7,669.00	1,188.00	0.00	2,474.00	87,961.00	7	350.44
7	Staff D7	Environment & San.		1,800.00	192,000.00	0.00	1,680.00	0.00	932.00	196,412.00	7	782.52
8	Staff D8	VHV, community Health		1,000.00	192,000.00	883.00	1,088.00	5,830.00	1,088.00	201,889.00	7	804.34
<b>Total</b>				<b>11,800.00</b>	<b>1,553,010.00</b>	<b>59,035.50</b>	<b>9,896.00</b>	<b>18,350.00</b>	<b>9,718.00</b>	<b>1,661,809.50</b>		<b>6,620.75</b>

### 5. Contracting Unit of Primary Health Care

#### Health Personnel (Civil Servants)

Items	Name / surname	Position	Salary	CSMBS	OT	Child school fee	Position extra	Total	Working hrs	Total sharing
1	Staff CUP1	Practitioner Nurse	198,090.00	40.00	24,640.00	0.00	42,000.00	264,770.00	1423.5	214,513.43
2	Staff CUP2	Vice Director of hospital	264,960.00	2,000.00	0.00	20,000.00	67,200.00	354,160.00	14	2,821.99
3	Staff CUP3	Doctor	127,200.00	0.00	60,640.00	0.00	0.00	187,840.00	63	6,735.30
4	Staff CUP4	Doctor	124,080.00	2,094.00	81,710.00	0.00	0.00	207,884.00	36	4,259.43
5	Staff CUP5	Doctor	114,720.00	0.00	66,740.00	0.00	0.00	181,460.00	36	3,718.02
6	Staff CUP6	Doctor	19,120.00	0.00	81,600.00	0.00	0.00	100,720.00	6	343.95
7	Staff CUP7	Pharmacist	221,880.00	2,570.00	0.00	0.00	42,000.00	266,450.00	156	23,657.48
8	Staff CUP8	Pharmacist Asst.	109,590.00	362.00	10,580.00	0.00	0.00	120,532.00	156	10,701.76
<b>Total</b>			848,170.00	4,134.00	315,330.00	20,000.00	109,200.00	1,296,834.00	1578.5	266,751.37

### 6. Provincial Health Office

#### Health Personnel (Civil Servants)

Items	Name / surname	Position	Salary	CSMBS	OT Project	Child school fee	Position extra	Total	Working hrs	Total sharing
1	Staff P1	Managing Development Dept.	123,360.00	0.00	0.00	4,350.00	0.00	127,710.00	7	508.80
2	Staff P2	Managing Development Dept.	110,040.00	0.00	0.00	4,350.00	0.00	114,390.00	7	455.74
3	Staff P3	UC project	171,180.00	0.00	0.00	4,350.00	0.00	175,530.00	7	699.32
4	Staff P4	Prevention and Promotion Proj.	113,160.00	0.00	0.00	0.00	0.00	113,160.00	7	450.84
5	Staff P5	Prevention and Promotion Proj.	353,490.00	0.00	0.00	0.00	0.00	353,490.00	10.5	2,112.49
6	Staff P6	Thai massage	189,120.00	0.00	0.00	0.00	0.00	189,120.00	7	753.47
7	Staff P7	Public Health officer 8	282,240.00	0.00	0.00	0.00	0.00	282,240.00	7	1,124.46
8	Staff P8	Development Dept. chief	297,240.00	0.00	0.00	0.00	0.00	297,240.00	7	1,184.22
9	Staff P9	Evaluation Secretary asst.	293,280.00	0.00	0.00	0.00	0.00	293,280.00	7	1,168.45
<b>Total</b>			1,933,110.00			13,050.00		1,946,160.00		8,457.79

### 7. Committee of Competition for out-standing Health Center

Items	Name / surname	Position	Incentives & OT	Salary	CSMBS	Per-diem	Child school fee	Position extra	Total	Working hrs	Total sharing
1	Staff DH1	Wang-Namyen DHO	3,000.00	208,680.00	0.00	3,000.00	10,000.00	0.00	224,680.00	4	514.44
2	Staff DH3	Maung DHO	1,000.00	235,530.00	4,743.50	1,188.00	6,690.00	1,135.00	250,286.50	4	573.07
3	Staff DH2	Kao-chakan DHO	-	97,020.00	2,319.00	0.00	0.00	0.00	99,339.00	4	227.45
4	Staff DH3	Wang Somboon DHO	-	169,920.00	0.00	0.00	0.00	0.00	169,920.00	4	389.06
5	Staff DH4	Klong Had DHO	-	171,840.00	2,500.00	0.00	9,000.00	0.00	183,340.00	4	419.78
6	Staff DH5	Wattana Nakron DHO	17,550.00	116,280.00	7,015.00	0.00	0.00	0.00	140,845.00	4	322.48
7	Staff DH6	Arunyapraded DHO	-	144,180.00	0.00	0.00	9,000.00	0.00	153,180.00	4	350.73
8	Staff DH7	Kok-Soong DHO	-	149,400.00	0.00	0.00	0.00	0.00	149,400.00	4	342.07
9	Staff DH8	Tapaya DHO	13,000.00	156,840.00	0.00	1,125.00	0.00	0.00	170,965.00	4	391.45
10	Staff DH1	District Health Director	1,600.00	347,850.00	856.00	1,188.00	0.00	1,410.00	352,904.00	4	808.02
<b>Total</b>			<b>36,150.00</b>	<b>1,797,540.00</b>	<b>17,433.50</b>	<b>6,501.00</b>	<b>34,690.00</b>	<b>2,545.00</b>	<b>1,894,859.50</b>		<b>4,338.54</b>

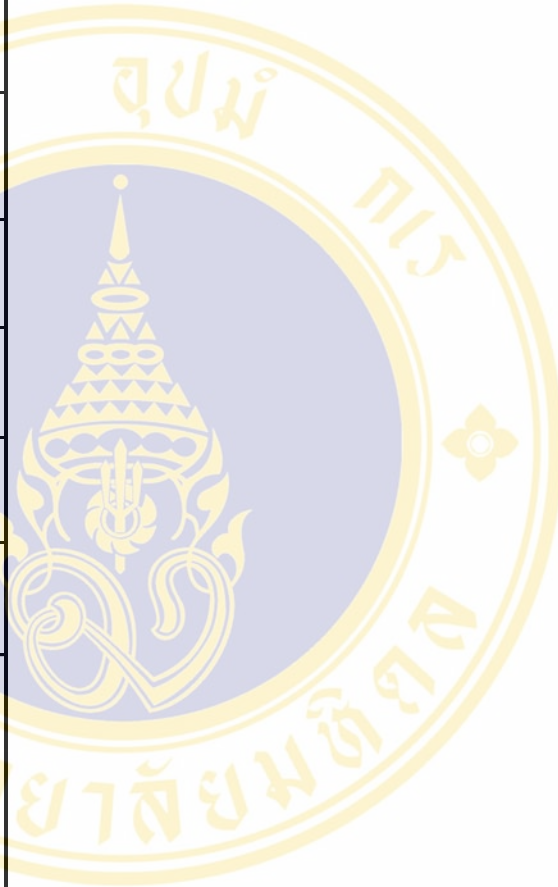
### 8. DHF project evaluation team

Personnel (Civil Servants)

Items	Name / surname	Position	Salary	CSMBS	OT Project	Child school fee	Position extra	Total	Working hrs	Total sharing
1	Staff P10	Health promotion	175,680.00	0.00	0.00	13,380.00	0.00	189,060.00	3.5	378.77
2	Staff P11	PH officer 7	199,260.00	0.00	0.00	0.00	0.00	199,260.00	3.5	399.20
3	Staff P12	PH officer 5	142,860.00	0.00	0.00	8,920.00	0.00	151,780.00	3.5	304.08
<b>Total</b>			<b>517,800.00</b>			<b>22,300.00</b>		<b>540,100.00</b>		<b>1,082.05</b>

**9. Health Teacher**

Items	Name / surname	Position	Salary	CSMBS	OT Project	Child school fee	Position extra	Total	Working hrs	Total sharing
1	Teacher 1	Teacher	256,080.00	0.00	0.00	0.00	0.00	256,080.00	14	2,052.16
2	Teacher 2	Teacher	259,950.00	0.00	0.00	0.00	0.00	259,950.00	14	2,083.17
3	Teacher 3	Teacher	263,820.00	0.00	0.00	0.00	0.00	263,820.00	14	2,114.18
<b>Total</b>			<b>779,850.00</b>			<b>0.00</b>		<b>779,850.00</b>		<b>6,249.51</b>

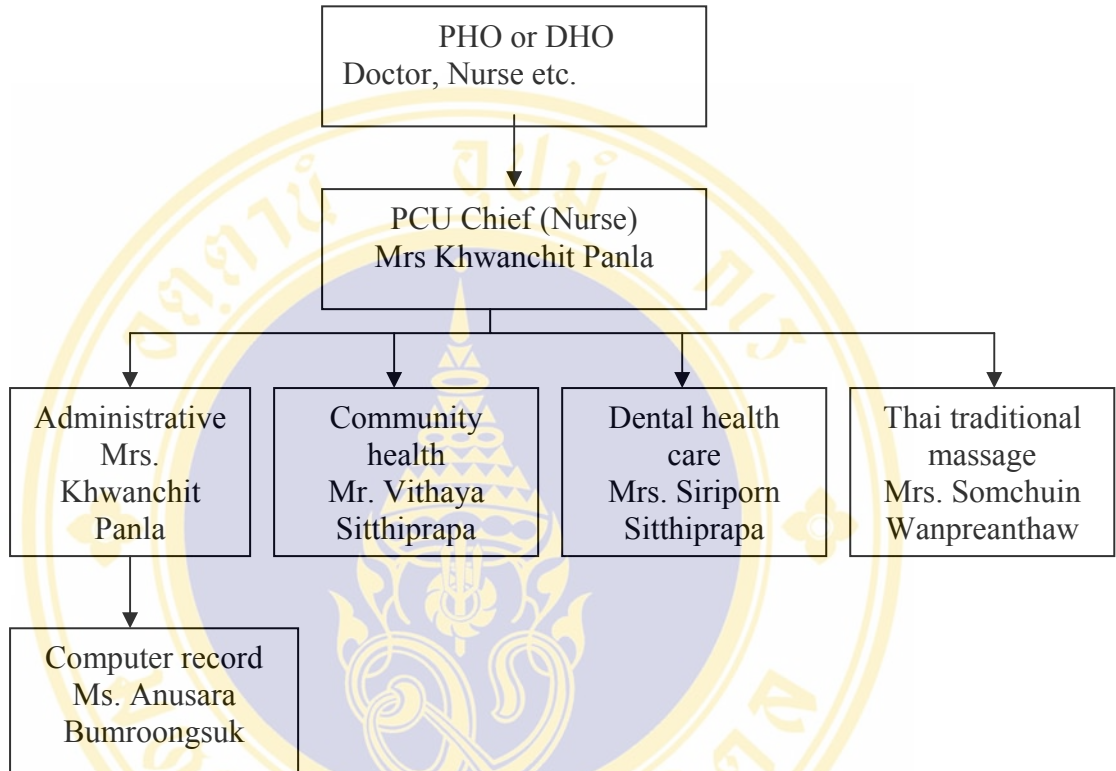




**APPENDIX C**

**LABOR COST AND CALCULATION**

### Organization chart of Salalumduan PCU



Source : Salalumduan PCU, progress report during October 2002-June 2003

### Form C1: Total of Labor Cost in Salalumduan PCU

Items	Code Activity	Health Personnel		Civil Servant (bahr/year)						Total	Gov. employee	Total LC
		Avritives		PHO	CUP	DHO	HC	PCU				
Community health Promotion	1	Community Survey and Family		-	-	402.17	7,287.10	57,985.64	65,674.91	3,047.35	68,722.25	
	2	School Health		64.41	-	284.86	-	32,047.15	32,396.42	-	32,396.42	
	3	Dental Public Health		64.41	-	-	-	55,679.00	55,743.40	-	55,743.40	
Population health Promotion	4	Maternal and Child Health		64.41	-	284.86	-	29,911.14	30,260.40	-	30,260.40	
	5	Immunization		64.41	-	146.95	-	24,534.76	24,746.11	-	24,746.11	
	6	Family Planning		64.41	-	284.86	-	36,746.29	37,095.55	-	37,095.55	
	7	Nutrition		64.41	-	284.86	-	22,902.21	23,251.47	-	23,251.47	
	8	Consumer protection		64.41	-	332.39	-	21,267.30	21,664.09	-	21,664.09	
Preventive and disease control	9	Sanitation and Environmental Health		201.19	-	391.26	-	20,775.75	21,368.19	-	21,368.19	
	10	Epidemiology		201.19	-	146.95	-	19,309.09	19,657.23	-	19,657.23	
	11	Prevention and control communicable disease		1,987.41	-	146.95	-	15,642.88	17,777.24	-	17,777.24	
	12	Prevention and control non communicable disease		201.19	-	146.95	-	13,931.93	14,280.07	-	14,280.07	
Community Health	13	Mental Health and drug control		201.19	-	332.39	-	30,666.13	31,199.71	-	31,199.71	
Promotion Supporting	14	Health Education		201.19	-	146.95	-	23,678.86	24,027.01	-	24,027.01	
Treatment Services	15	Home visit		201.19	11,603.47	201.08	8,408.84	31,088.41	51,502.99	-	51,502.99	
	16	Treatments services in PCU		753.47	202,705.79	-	2,206.38	28,364.16	234,029.80	50,691.49	284,721.29	
Administrations	17	Referral		-	-	-	-	10,356.54	10,356.54	-	10,356.54	
Human resource Development	18	Administrations and Cooperation		2,788.33	-	2,886.21	-	14,917.31	20,591.84	34,310.09	54,901.93	
	19	Conference and meeting		-	52,442.10	201.08	-	24,752.24	77,395.42	13,713.07	91,108.50	
	20	Monitoring and Evaluations		2,352.67	-	4,338.54	1,290.59	8,997.23	16,979.02	-	16,979.02	
		<b>Total</b>		<b>9,539.84</b>	<b>266,751.36</b>	<b>10,959.30</b>	<b>19,192.90</b>	<b>523,554.00</b>	<b>829,997.41</b>	<b>101,762.00</b>	<b>931,759.41</b>	

**Form C2: LC calculation of Salalumduan PCU  
Times spent ( hours) in activities**

Items	Code Activity	Health Personnel		Civil Servants										Government Employee					Total LC	Proportion of work %
		Activities		Staff 1		Staff 2		Staff 3		Staff 4		Staff 5		Total						
		Hrs	Baht	Hrs	Baht	Hrs	Baht	Hrs	Baht	Hrs	Baht	Hrs	Baht	Hrs	Baht	Hrs	Baht			
Community health Promotion	1	144	20,531.45	260	21,429.17	200	16,025.01	57,985.64	52	1,517.09	52	1,530.26	3,047.35	61,032.99	8					
Population health Promotion	2	84	11,976.68	52	4,285.83	197	15,784.64	32,047.15	0	-	0	-	-	32,047.15	4					
	3	48	6,843.82	17	1,401.14	592	47,434.04	55,679.00	0	-	0	-	-	55,679.00	8					
	4	180	25,664.31	35	2,884.70	17	1,362.13	29,911.14	0	-	0	-	-	29,911.14	3					
	5	49	6,986.40	175	14,423.48	39	3,124.88	24,534.76	0	-	0	-	-	24,534.76	3					
	6	140	19,961.13	17	1,401.14	192	15,384.01	36,746.29	0	-	0	-	-	36,746.29	4					
	7	96	13,687.63	35	2,884.70	79	6,329.88	22,902.21	0	-	0	-	-	22,902.21	2					
	8	48	6,843.82	175	14,423.48	0	-	21,267.30	0	-	0	-	-	21,267.30	3					
Preventive and disease control	9	96	13,687.63	86	7,088.11	0	-	20,775.75	0	-	0	-	-	20,775.75	2					
	10	36	5,132.86	172	14,176.22	0	-	19,309.09	0	-	0	-	-	19,309.09	2					
	11	60	8,554.77	86	7,088.11	0	-	15,642.88	0	-	0	-	-	15,642.88	2					
	12	48	6,843.82	86	7,088.11	0	-	13,931.93	0	-	0	-	-	13,931.93	2					
Community Health Promotion Supporting	13	96	13,687.63	206	16,978.50	0	-	30,666.13	0	-	0	-	-	30,666.13	4					
	14	68	9,695.41	88	7,252.95	84	6,730.51	23,678.86	0	-	0	-	-	23,678.86	3					
	15	120	17,109.54	86	7,088.11	86	6,890.76	31,088.41	0	-	0	-	-	31,088.41	3					
Treatment Services	16	120	17,109.54	86	7,088.11	52	4,166.50	28,364.16	865	25,236.28	865	25,455.21	50,691.49	79,055.65	23					
	17	60	8,554.77	17	1,401.14	5	400.63	10,356.54	0	-	0	-	-	10,356.54	1					
Administrations	18	100	14,257.95	8	659.36	0	-	14,917.31	593	17,300.71	578	17,009.38	34,310.09	49,227.40	15					
Human resource Development	19	100	14,257.95	34	2,802.28	96	7,692.01	24,752.24	234	6,826.92	234	6,886.15	13,713.07	38,465.31	8					
	20	36	5,132.86	8	659.36	40	3,205.00	8,997.23	0	-	0	-	-	8,997.23	1					
<b>Total</b>		<b>1,729</b>	<b>246,520.00</b>	<b>1,729</b>	<b>142,504.00</b>	<b>1,679</b>	<b>134,530.00</b>	<b>523,554.00</b>	<b>1,744</b>	<b>50,881.00</b>	<b>1,729</b>	<b>50,881.00</b>	<b>101,762.00</b>	<b>625,316.00</b>	<b>100</b>					

**Form C3: LC calculation of Salalumduan Health Centers network  
Times spent ( hours) in activities**

Items	Code	Health Personnel		Nongsai Health Center				Kao Maika Health Center				Sae Aor		Total LC
		Staff HC1	Staff HC2	Staff HC3	Staff HC4	Hrs	Baht	Hrs	Baht	Hrs	Baht	HC	Baht	
Activities		219,175.00		112,520.00		229,820.00		143,714.00						
Total income in FY 2003 (baht)														
Community health Promotion	1	18	2,264.72	18	1,162.66	18	2,374.72	18	1,484.99					7,287.10
	2	0	-	0	-	0	-	0	-					-
Population health Promotion	3	0	-	0	-	0	-	0	-					-
	4	0	-	0	-	0	-	0	-					-
	5	0	-	0	-	0	-	0	-					-
	6	0	-	0	-	0	-	0	-					-
Preventive and disease control	7	0	-	0	-	0	-	0	-					-
	8	0	-	0	-	0	-	0	-					-
	9	0	-	0	-	0	-	0	-					-
	10	0	-	0	-	0	-	0	-					-
	11	0	-	0	-	0	-	0	-					-
	12	0	-	0	-	0	-	0	-					-
Community Health Promotion Supporting	13	0	-	0	-	0	-	0	-					-
	14	0	-	0	-	0	-	0	-					-
Treatment Services	15	21	2,642.18	29	1,873.18	7	923.50	36	2,969.98					8,408.84
	16	0	-	15	968.89	0	-	15	1,237.49					2,206.38
Administrations	17	0	-	0	-	0	-	0	-					-
	18	0	-	0	-	0	-	0	-					-
Human resource Development	19	0	-	0	-	0	-	0	-					-
	20	0	-	0	-	0	-	0	-				1,290.59	1,290.59
<b>Total</b>		39	4,906.90	62	4,004.73	25	3,298.22	69	5,692				1,290.59	19,192.90

### Form C4: LC calculation of Muang District Health Office Times spent ( hours) in activities

Items	Code	Health Personnel		Maung District Health Office																Evaluation Committee	Total	
		Activities		Staff D1		Staff D2		Staff D3		Staff D4		Staff D5		Staff D6		Staff D7		Staff D8				
		Total baht		1,405.99	734.76	734.76	756.57	756.57	788.98	788.98	350.44	350.44	782.52	782.52	804.34	804.34	997.16	997.16	4,338.54	4,338.54	10,959.30	
				FTE	FTE	Baht	FTE	Baht	FTE	Baht	FTE	Baht	FTE	Baht	FTE	Baht	FTE	Baht	FTE	Baht		
Community health Promotion																						
	1	Community Survey and Family				0		0							0	402.17						402.17
	2	School Health						0														
	3	Dental Public Health						0														
Population health Promotion	4	Maternal and Child Health						0	25	197.25	25	87.61										284.86
	5	Immunization						0	25	197.25	25	87.61										284.86
	6	Family Planning						0	25	197.25	25	87.61										284.86
	7	Nutrition						0	25	197.25	25	87.61										284.86
	8	Consumer protection						0									33	332.39				332.39
Preventive and disease control	9	Sanitation and Environmental Health						0							50	391.259						391.26
	10	Epidemiology						0														146.95
	11	Prevention and control communicable						0														146.95
	12	Prevention and control non communicable						0														146.95
Community Health	13	Mental Health and drug control						0														332.39
Promotion Supporting	14	Health Education						0														146.95
Treatment Services	15	Home Visit						0								0	25	201.08				201.08
Administrations	16	Treatments services in PCU						0														
Human resource Development	17	Referral						0														
	18	Administrations and Cooperation						100	756.57						50	391.259						2,886.21
	19	Conference and meeting																				201.08
	20	Monitoring and Evaluations																				4,338.54
		<b>Total</b>																				10,959.30

**Form C5: LC calculation of Contracting Unit for Primary Care  
Times spent ( hours) in activities**

Items	Code	Health Personnel		Staff CUP1		Staff CUP2		Staff CUP3		Staff CUP4		Staff CUP5		Staff CUP6		Staff CUP7		Staff CUP8		Total	
		Activities	Hrs	Baht	Hrs	Baht	Hrs	Baht	Hrs	Baht	Hrs	Baht	Hrs	Baht	Hrs	Baht	Hrs	Baht	Hrs		Baht
Community health Promotion	1	Community Survey and Family	0	-	0	-	0	-	0	-	0	-	0	-	0	-	0	-	0	-	-
	2	School Health	0	-	0	-	0	-	0	-	0	-	0	-	0	-	0	-	0	-	-
	3	Dental Public Health	0	-	0	-	0	-	0	-	0	-	0	-	0	-	0	-	0	-	-
Population health Promotion	4	Maternal and Child Health	0	-	0	-	0	-	0	-	0	-	0	-	0	-	0	-	0	-	-
	5	Immunization	0	-	0	-	0	-	0	-	0	-	0	-	0	-	0	-	0	-	-
	6	Family Planning	0	-	0	-	0	-	0	-	0	-	0	-	0	-	0	-	0	-	-
	7	Nutrition	0	-	0	-	0	-	0	-	0	-	0	-	0	-	0	-	0	-	-
	8	Consumer protection	0	-	0	-	0	-	0	-	0	-	0	-	0	-	0	-	0	-	-
Preventive and disease control	9	Sanitation and Environmental Health	0	-	0	-	0	-	0	-	0	-	0	-	0	-	0	-	0	-	-
	10	Epidemiology	0	-	0	-	0	-	0	-	0	-	0	-	0	-	0	-	0	-	-
	11	Prevention and control communicable disease	0	-	0	-	0	-	0	-	0	-	0	-	0	-	0	-	0	-	-
	12	Prevention and control non communicable	0	-	0	-	0	-	0	-	0	-	0	-	0	-	0	-	0	-	-
Community Health Promotion Supporting	13	Mental Health and drug control	0	-	0	-	0	-	0	-	0	-	0	-	0	-	0	-	0	-	-
	14	Health Education	0	-	0	-	0	-	0	-	0	-	0	-	0	-	0	-	0	-	-
	15	Home Visit	77	11,603.47	0	-	0	-	0	-	0	-	0	-	0	-	0	-	0	-	11,603.47
Treatment Services	16	Treatments services in PCU	1112.5	167,647.48	14	2,821.99	63	6,735.30	36	4,259.43	36	3,718.02	6	343.95	78	11,828.74	78	5,350.88	78	5,350.88	202,705.79
	17	Referral	0	-	0	-	0	-	0	-	0	-	0	-	0	-	0	-	0	-	-
Administrations	18	Administrations and Cooperation	0	-	0	-	0	-	0	-	0	-	0	-	0	-	0	-	0	-	-
	19	Conferece and meeting	234	35,262.48	0	-	0	-	0	-	0	-	0	-	0	-	78	11,828.74	78	5,350.88	52,442.10
Human resource Development	20	Monitoring and Evaluations	0	-	0	-	0	-	0	-	0	-	0	-	0	-	0	-	0	-	-
<b>Total</b>			<b>1423.5</b>	<b>214,513.43</b>	<b>14</b>	<b>2,821.99</b>	<b>63</b>	<b>6,735.30</b>	<b>36</b>	<b>4,259.43</b>	<b>36</b>	<b>3,718.02</b>	<b>6</b>	<b>343.95</b>	<b>156</b>	<b>23,657.48</b>	<b>156</b>	<b>10,701.76</b>	<b>156</b>	<b>10,701.76</b>	<b>266,751.36</b>

**Form C6: LC Calculation of Provincial Health Office  
Times spent ( hours) in activities**

Items	Code	Health Personnel		Staff P1		Staff P2		Staff P3		Staff P4		Staff P5		Staff P6		Staff P7		Staff P8		Staff P9		Staff P10		Staff P11		Staff P12		Total LC
		FTE	Baht	Hrs	Baht	Hrs	Baht	Hrs	Baht	Hrs	Baht	Hrs	Baht	Hrs	Baht	Hrs	Baht	Hrs	Baht	Hrs	Baht	Hrs	Baht	Hrs	Baht	Hrs	Baht	
Community health Promotion	1	0	-	0	-	0	-	0	-	0	-	0	-	0	-	0	-	0	-	0	-	0	-	0	-	0	-	-
	2	0	-	0	-	0	-	0	-	0	-	0	-	0	-	0	-	0	-	0	-	0	-	0	-	0	-	64.41
Population health	3	0	-	0	-	0	-	0	-	0	-	0	-	0	-	0	-	0	-	0	-	0	-	0	-	0	-	64.41
	4	0	-	0	-	0	-	0	-	0	-	0	-	0	-	0	-	0	-	0	-	0	-	0	-	0	-	64.41
Promotion	5	0	-	0	-	0	-	0	-	0	-	0	-	0	-	0	-	0	-	0	-	0	-	0	-	0	-	64.41
	6	0	-	0	-	0	-	0	-	0	-	0	-	0	-	0	-	0	-	0	-	0	-	0	-	0	-	64.41
Preventive and disease control	7	0	-	0	-	0	-	0	-	0	-	0	-	0	-	0	-	0	-	0	-	0	-	0	-	0	-	64.41
	8	0	-	0	-	0	-	0	-	0	-	0	-	0	-	0	-	0	-	0	-	0	-	0	-	0	-	64.41
Community Health Promotion/Supporting	9	0	-	0	-	0	-	0	-	0	-	0	-	0	-	0	-	0	-	0	-	0	-	0	-	0	-	201.19
	10	0	-	0	-	0	-	0	-	0	-	0	-	0	-	0	-	0	-	0	-	0	-	0	-	0	-	201.19
Treatment/Services	11	0	-	0	-	0	-	0	-	0	-	0	-	0	-	0	-	0	-	0	-	0	-	0	-	0	-	1,987.41
	12	0	-	0	-	0	-	0	-	0	-	0	-	0	-	0	-	0	-	0	-	0	-	0	-	0	-	201.19
Administrations	13	0	-	0	-	0	-	0	-	0	-	0	-	0	-	0	-	0	-	0	-	0	-	0	-	0	-	201.19
	14	0	-	0	-	0	-	0	-	0	-	0	-	0	-	0	-	0	-	0	-	0	-	0	-	0	-	201.19
Human resource Development	15	0	-	0	-	0	-	0	-	0	-	0	-	0	-	0	-	0	-	0	-	0	-	0	-	0	-	201.19
	16	0	-	0	-	0	-	0	-	0	-	0	-	0	-	0	-	0	-	0	-	0	-	0	-	0	-	753.47
Total	17	0	-	0	-	0	-	0	-	0	-	0	-	0	-	0	-	0	-	0	-	0	-	0	-	0	-	-
	18	7	508.80	7	455.74	7	699.32	0	-	0	-	0	-	0	-	0	-	7	1,124.46	0	-	0	-	0	-	0	-	2,788.33
Total	19	0	-	0	-	0	-	0	-	0	-	0	-	0	-	0	-	0	-	0	-	0	-	0	-	0	-	-
	20	0	-	0	-	0	-	0	-	0	-	0	-	0	-	0	-	0	-	0	-	0	-	0	-	0	-	-
Total		7	508.80	7	455.74	7	699.32	7	450.84	10.5	2,112.49	7	753.47	7	1,124.46	7	1,184.22	7	1,168.45	7	1,168.45	3.5	378.77	3.5	399.20	3.5	304.08	9,539.84



**Form D1: Recurrent cost-Direct / Indirect cost sharing**

Salalumduan Primary Care unit

Sakeo Province

Fiscal year 2003

Code	Activities	Indirect cost						Direct cost		Total	
		Time (car) used	Fuel	Area (m <sup>2</sup> ) of building	Utilities	FTE %	Supplies	LC	Medicine		Supplies
	<b>Total</b>	%	17,500.00	%	14,138.00	%	37,059.00		45,518.70	5,906.00	120,121.70
1	Community and Family Survey	10.00	1,750.00	-	-	8.22	3,047.36		-		4,797.36
2	School Health	5.00	875.00	-	-	3.87	1,433.29		9,788.10		12,096.39
3	Dental Public Health	2.00	350.00	3.82	539.88	7.63	2,827.85		-	200.00	3,917.72
4	Maternal and Chaid Health	5.00	875.00	10.26	1,450.92	2.69	998.57		4,537.30	275.00	8,136.79
5	Immunization	5.00	875.00	7.64	1,079.75	3.05	1,132.00		23,105.50		26,192.25
6	Family Planning	3.00	525.00	4.77	674.84	4.05	1,502.16		5,831.80		8,533.80
7	Nutrition	3.00	525.00	-	-	2.44	903.88		-		1,428.88
8	Consumer Protection	3.00	525.00	-	-	2.59	959.83		-		1,484.83
9	Sanitation and Environmental Health	3.00	525.00	-	-	2.11	783.36		-		1,308.36
10	Epidemiology	2.00	350.00	-	-	2.42	895.27		-		1,245.27
11	Prevention and control of Communicable Diseases	18.00	3,150.00	-	-	1.70	628.41		-	2,256.00	6,034.41
12	Prevention and control of Non-Communicable Diseases	3.00	525.00	-	-	1.56	576.76		-		1,101.76
13	Mental Health and Drugs Abuse Prevention	6.00	1,050.00	-	-	3.51	1,299.86		-	360.00	2,709.86
14	Health education	5.00	875.00	3.82	539.88	2.79	1,033.00		-	915.00	3,362.88
15	Home Visit	10.00	1,750.00	-	-	3.39	1,256.82		-		3,006.82
16	Treatment in PCU	3.00	525.00	40.57	5,736.18	23.09	8,556.71		-	3,195.00	18,012.89
17	Referral	4.00	700.00	-	-	0.95	352.94		-		1,052.94
18	Administration	2.00	350.00	18.14	2,564.41	14.85	5,505.05		-	961.00	9,380.46
19	Conference and meeting	5.00	875.00	10.98	1,552.14	8.11	3,004.32		-		5,431.46
20	Monitoring and Evaluation	3.00	525.00	-	-	0.98	361.55		-		886.55
	<b>Total</b>	100.00	17,500.00	100.00	14,138.00	100.00	37,059.00	-	43,262.70	8,162.00	120,121.70

**Form D2: Medicine cost for P&P**

Salalumduan Primary Care unit

Sakeo Province

Fiscal year 2003

**Medicine Consumption list**

No.	Medicines	Amount	Price	Total	Unit	Activity
1	Ferrous sulfate tab300mg.	80	0.14	11.20	tab.	MCH
2	DTP1	48	67	3,216.00	dose	IMM/schl
3	DTP2	54	67	3,618.00	dose	IMM/schl
4	DTP3	54	67	3,618.00	dose	IMM/schl
5	DTP Stimulate 1	43	67	2,881.00	dose	IMM/schl
6	DTP Stimulate 2	28	67	1,876.00	dose	IMM/schl
7	Hepatitis B2	48	92	4,416.00	dose	IMM
8	Hepatitis B3	54	92	4,968.00	dose	IMM
9	JE1	34	82.5	2,805.00	dose	IMM
10	JE 2	27	82.5	2,227.50	dose	IMM
11	JE 3	32	82.5	2,640.00	dose	IMM
12	Measle	7	58.3	408.10	dose	IMM/schl
13	OPV1	5	4.4	22.00	dose	IMM
14	OPV2	14	4.4	61.60	dose	IMM
15	OPV3	14	4.4	61.60	dose	IMM
16	OPV stimulate 1	10	4.4	44.00	dose	IMM
17	OPV stimulate 2	7	4.4	30.80	dose	IMM
18	Comdoms	1200	1.88	2,256.00	pieces	CD-protec
19	Contracep. injection	205	13.5	2,767.50	dose	FMP
20	Reget	12	6	72.00	Val	FMP
21	R-den	521	4.3	2,240.30	Val	FMP
22	E-naf	16	47	752.00	dose	FMP
23	Tetanus Toxioid inj.5ml	235	19.26	4,526.10	VIAL	MCH
<b>Total</b>				<b>45,518.70</b>		

**Form D3: Supplies cost**

Salalumduan Primary Care unit

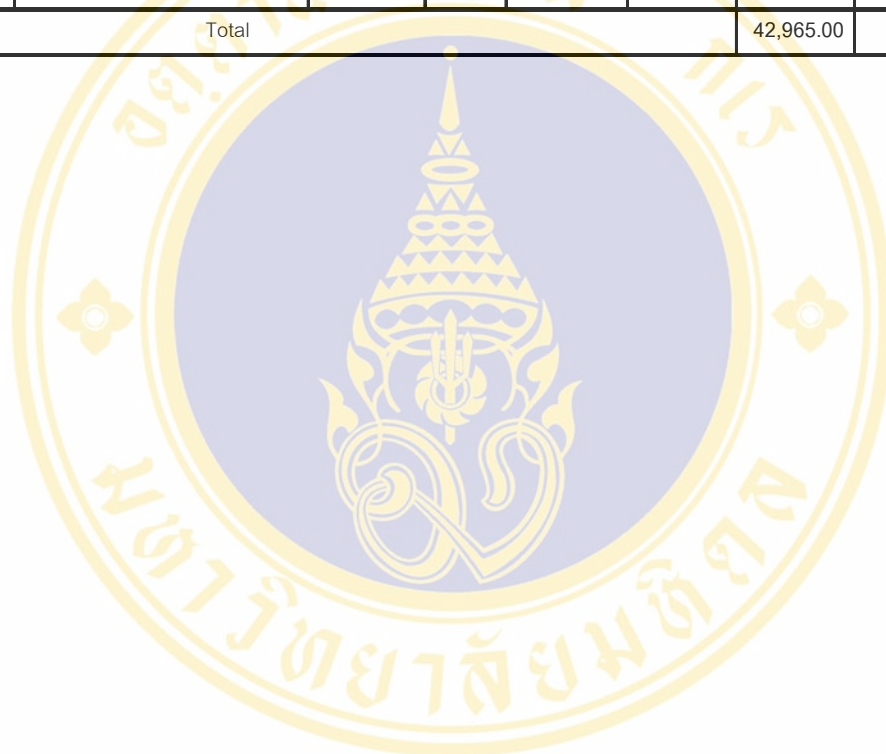
Sakeo Province

Fiscal year 2003

No.	Supplies	Date of purchasing M/D/Y	Quantity	unit	Prices/unit	Total	Activities	Cost
1	cleaning liquid	5/18/2003	3	bottles	65.00	195.00	indirect	37,059.00 indirect
2	cleaning liquid	7/24/2003	6	bottles	64.00	384.00	indirect	
3	Napkin	10/1/2002	2	Packs	33.00	66.00	indirect	
4	Napkin	1/1/2003	48	rolls	4.80	230.00	indirect	
5	Napkin	5/21/2003	24	rolls	4.80	115.00	indirect	
6	Cooking Gas	11/11/2002	1	bottles	230.00	230.00	indirect	
7	Cooking Gas	1/20/2003	1	bottles	230.00	230.00	indirect	
8	Cooking Gas	5/14/2003	1	bottles	235.00	235.00	indirect	
9	Cooking Gas	1/28/2003	1	bottles	235.00	235.00	indirect	
10	Scissors for cutting the grass	5/16/2003	1	piece	280.00	280.00	indirect	
11	Scissors for cutting the branch	5/16/2003	1	piece	140.00	140.00	indirect	
12	Soaps	5/21/2003	1	boxes	210.00	210.00	indirect	
13	ID.Card for patients	10/8/2002	1	Pack	2,000.00	2,000.00	indirect	
14	ID.Card for patients	8/1/2003	1	Pack	500.00	500.00	indirect	
15	Weight	9/12/2003	2	pieces	530.00	1,060.00	indirect	
16	Water rubber tube	12/25/2002	40	m	13.00	520.00	indirect	
17	Springer	12/13/2002	2	pieces	10.00	20.00	indirect	
18	Connectors	12/13/2002	1	pieces	9.00	9.00	indirect	
19	Tree	3/18/2003	7	cane	500.00	3,500.00	indirect	
20	Tree	6/20/2003	20	cane	60.00	1,200.00	indirect	
21	Organic fertilizer	6/20/2003	4	sacks	300.00	1,200.00	indirect	
22	Wooden chairs	5/9/2003	20	chairs	700.00	14,000.00	indirect	
23	Fans 18"	12/9/2003	10	Fans	900.00	9,000.00	indirect	
24	Fan 16"	12/9/2003	1	Fans	1,500.00	1,500.00	indirect	

No.	Supplies	Date of purchasing M/D/Y	Quantity	unit	Prices/unit	Total	Activities	Cost
25	Correcting pen	11/11/2002	1	piece	22.00	22.00	Admin.	961.00
26	Flag	10/1/2002	2	piece	80.00	160.00	Admin.	
27	Flag	11/1/2002	1	piece	80.00	80.00	Admin.	
28	Disket	5/14/2003	10	piece	12.00	120.00	Admin.	
29	A4 Paper	11/11/2002	1	ream	69.00	69.00	Admin.	
30	Books size No.2	11/11/2002	6	books	35.00	210.00	Admin.	
31	Bank charges	11/11/2002	2	lists	30.00	60.00	Admin.	
32	Accounting books	11/11/2002	2	books	30.00	60.00	Admin.	
33	Report book	11/11/2002	2	books	30.00	60.00	Admin.	
34	Cover paper A4	11/11/2002	1	ream	120.00	120.00	Admin.	
35	Drinking Water	1/1/2003	20	bottles	10.00	200.00	Dental	400.00
36	Drinking Water	3/20/2003	20	bottles	10.00	200.00	Dental	
37	Speaker spare part	3/20/2003	1	piece	160.00	160.00	Mental H	160.00
38	Tape foams	11/11/2002	1	piece	110.00	110.00	H. ed.	915.00
39	Books size No.4	11/11/2002	1	book	110.00	110.00	H. ed.	
40	Scent paper A4	11/11/2002	1	ream	115.00	115.00	H. ed.	
41	Lack Seal 1.5 inch	11/11/2002	2	pieces	55.00	110.00	H. ed.	
42	Tape foams 3m	11/11/2002	1	piece	110.00	110.00	H. ed.	
43	Label 6 ft.	11/11/2002	1	piece	360.00	360.00	H. ed.	
44	Sampoo	6/21/2003	2	bottles	78.00	156.00	Mass	
45	Detergents	10/1/2002	20	sachets	5.00	100.00	Mass	
46	Oil for Massage	5/6/2002	2	bottles	165.00	330.00	Mass	
47	Oil for Massage	7/24/2003	2	bottles	55.00	110.00	Mass	
48	Talc	6/24/2003	2	bottles	45.00	90.00	Mass	
49	Lotions cream	1/6/2003	4	packs	125.00	500.00	Mass	
50	Lotion cream	7/24/2003	2	packs	39.00	78.00	Mass	
51	Menthol	7/25/2003	2	packs	180.00	360.00	Mass	
52	Borneol	7/25/2003	2	packs	240.00	480.00	Mass	

No.	Supplies	Date of purchasing M/D/Y	Quantity	unit	Prices/unit	Total	Activities	Cost
53	A hot compress	3/14/2003	8	sachets	50.00	400.00	Mass	2,777.00
54	Washing dish	10/1/2002	2	sacks	22.00	44.00	Mass	
55	Washing dish	5/21/2003	1	packs	129.00	129.00	Mass	
56	Children toy	2/4/2003	1	set	275.00	275.00	MCH	275.00
57	Drinking Water	5/14/2003	20	bottles	10.00	200.00	Mental H	200.00
58	Flashlight	5/16/2003	2	piece	109.00	218.00	treatm.	218.00
Total						42,965.00		



**Form D4: Sharing of Utility Cost**

Salalumduan Primary Care unit

Sakeo Province

Fiscal year 2003

Items	Codes	Activities	propotion% of Area	Utilities
<b>Total cost in fiscal year 2003</b>				14,138.00
Community health Promotion	1	Community Survey and Family	0	-
Population health Promotion	2	School Health	0	-
	3	Dental Public Health	4	539.88
	4	Maternal and Child Health	10	1,450.92
	5	Immunization	8	1,079.75
	6	Family Planning	5	674.84
	7	Nutrition	0	-
	8	Consumer protection	0	-
	Preventive and disease control	9	Sanitation and Environmental Health	0
10		Epidemiology	0	-
11		Prevention and control of Communicable Diseases	0	-
12		Prevention and control of Non-Communicable Diseases	0	-
13		Mental Health and drug control	0	-
Community Health Promotion Supporting	14	Health Education	4	539.88
	15	Home Visit	0	-
Treatment Services	16	Treatments services in PCU	41	5,736.18
	17	Referral	0	-
Administrations	18	Administrations and Cooperation	18	2,564.41
Human resoruce Development	19	Conference and meeting	11	1,552.14
	20	Monitoring and Evaluations	0	-
Total			100	14,138.00

**Form D5: Project cost**

Weigh population in catchment area

Place	Population	weigh %
Salalumduan PCU	4659	35.64
Kao Maka Health Center	4340	33.20
Nong-sai Health Center	4073	31.16
<b>Total</b>	<b>13072</b>	<b>100.00</b>

No.	Project	sources			Total	
		TAO		Municipality		
		Pop %	Baht			
1	Physical Exercise for Health		0	44,000.00	3,216.67	47,216.67
2	Action against DHF		106,000.00	20,000.00	0	57,779.53
		35.64	37,779.53			
3	Action against Rabies		40,000.00	20,000.00	0	34,256.43
		35.64	14,256.43			
4	Action against Diabetes and H		17,500.00	25,000.00	0	31,237.19
		35.64	6,237.19			
<b>Total</b>			<b>58,273.14</b>	<b>109,000.00</b>	<b>3,216.67</b>	<b>170,489.81</b>



**Form E: Calculation of unit cost and ABC Heirarchy**

Code	Activities	Cost				ABC Heirarchy				
		Cost	Total	No.	unit	unit cost	Unit	Batch	Product	Facility
<b>1</b>	<b>Community Survey and Family</b>									
1.1	<b>Data collection</b>			12	Times	348.27		348.27		
	Labor cost = LC of staff 4 and staff 5	3,047.35	4,179.22							
	Computer	370.03								
	Supplies cost=	761.84								
1.2	<b>Family folder registration</b>			12	Times	451.48		451.48		
	Labor cost = 1 hrs *52weeks (staff 2)	4,285.83	5,417.71							
	Supplies cost= 2599.73/4	761.84								
	Computer	370.03								
1.3	<b>Planning</b>			12	plans	378.41		369.08		
	Labour cost = 6hrs *(LC of staff HC1+ HC2+ HC3, + HC4+staff1+staff2)	3,779.03	4,540.87							
	Supplies cost= 2599.73/4	761.84								
1.4	<b>Conduct survey</b>			771	households	82.89		82.89		
	Labor cost = 12 working hours of HC1+ HC2 + HC3+ HC4 +134hrs(Staff1 +202hrs(Staff 2)+200hrs(Staff 3)	56,637.55	63,905.35							
	Fuel	1,750.00								
	Pick up	4,680.30								
	Tape player for car	75.65								
	Supplies cost= 2599.73/4	761.84								
1.5	<b>Supervision</b>			2	times	533.32			533.32	
	Labour cost = 4hrs(Staff 1)+(DHO supervisor)	972.49	1,066.64							
	Grass cutter	94.15								
1.6	<b>Physical Exercise Campaign</b>			208	times	242.39		242.39		
	Labour cost	39,216.67	50,416.67							
	Lound-speaker	11,200.00								
	<b>Total</b>		<b>129,526.46</b>					82.89	1,411.21	533.32
<b>2</b>	<b>School Health</b>									
2.1	<b>Data survey of student</b>			1	Time	4,009.71			4,009.71	
	Labor cost = 4hrs*3schools(staff 3)+1hrs	1,041.63	4,009.71							
	Labour cost of teachers=4hrs*3 teachers	1,785.58								
	computer=348.08*.5	174.04								
	pick up =2375.73*.2	475.15								
	fuel=875*.2	175.00								
	supplies=1433.29*.25	358.32								
2.2	<b>School Health Plan</b>			1	Plans	1,406.84			1,406.84	
	Labour cost= 4 hrs*3school plans (staff 3)	961.50	1,406.84							
	computer=348.08*.25	87.02								
	supplies=1433.29*.25	358.32								
2.3	<b>Body Check up (once a year)</b>			551	Students	15.17		15.17		
	Labour cost=7hrs*3schools(staff 1,staff 2, staff 3)	6,407.61	8,358.53							
	Labour cost of teachers=3hrs*3 teachers	1,339.18								
	pick up =2375.73*.1	237.57								
	fuel=875*.1	87.50								
	supplies=1433.29*.20	286.66								

Code	Activities	Cost				ABC Heirarchy				
		Cost	Total	No.	unit	unit cost	Unit	Batch	Product	Facility
<b>2.4</b>	<b>Weight (twice a year)</b>			<b>551</b>	<b>Students</b>	<b>26.83</b>	26.83			
	Labor cost=7hrs*3schools*2times(staff 1,staff 3)	9,353.59	14,782.01							
	Labor cost=7hrs*3schools*1times(staff 2)	1,730.82								
	Labours cost of teacher = 2hrs*2times(3teachers)	1,785.58								
	pick up =2375.73*.5	1,187.87								
	fuel=875*.5	437.50								
	supplies=1433.29*.20	286.66								
<b>2.5</b>	<b>Vaccination</b>									
	Labour cost=7hrs*3school*1times(staff 1,staff3)	4,676.80	8,847.88							
	Labour cost(follow up the absent st.)=10 hrs(staff2)	824.20								
	Labour cost (follow up)=7hrs*3hrs(staff 3)	1,682.63								
	Labour cost of teacher=3hrs(3 teachers)	1,339.18								
	pick up =2375.73*.1	237.57								
	fuel=875*.1	87.50								
<b>2.5.1</b>	<b>Measle vaccination</b>				<b>59</b>	<b>students</b>	<b>51.38</b>	51.38		
	Measle Vaccine	408.10	3,031.34							
	Weigh =Total/199*59	2,623.24								
<b>2.5.2</b>	<b>DTP1</b>				<b>59</b>	<b>students</b>	<b>111.46</b>	111.46		
	Weigh =Total/199*59	2,623.24	6,576.24							
	DT1=59 students*67baht	3,953.00								
<b>2.5.3</b>	<b>DTP2</b>									
	DT2= 81 student * 67baht	5,427.00	9,028.40	<b>81</b>	<b>students</b>	<b>111.46</b>	111.46			
	Weigh =Total/199*81	3,601.40								
<b>2.6</b>	<b>Iodine check</b>			<b>423</b>	<b>students</b>	<b>4.75</b>	4.75			
	Labour cost=7hrs*3school*1times(staff 3)	1,682.63	2,007.70							
	pick up =2375.73*.1	237.57								
	fuel=875*.1	87.50								
<b>2.7</b>	<b>Evaluation and report</b>			<b>2</b>	<b>reports</b>	<b>1,797.80</b>		1,797.80		
	Labour cost=7hrs*3school*2times(staff 3)	3,365.25	3,595.60							
	computer=348.08*.25	87.02								
	supplies=1433.29*.1	143.33								
<b>2.8</b>	<b>Supervision</b>			<b>1</b>	<b>times</b>	<b>714.05</b>			714.05	
	Labour cost=4hrs*1times(staff 3)	320.50	714.05							
	Labor cost of PHO	64.41								
	Labor cost of DHO	284.86								
	Grass cutter	44.28								
	<b>Total</b>	<b>53,510.42</b>					321.05	1,797.80	6,130.60	-
<b>3</b>	<b>Dental Public Health</b>									
<b>3.1</b>	<b>Dental health in PCU</b>		<b>56,741.84</b>							
	Labour cost= 592 hrs. staff 3	47,434.04	56,741.84							
	Utilities	539.88								
	water	200.00								
	Supplies	942.62								
	Computer	343.38								
	Building+grass cutter	7,281.92								
<b>3.1.1</b>	<b>Dental health education in child health clinic</b>			<b>5,707.56</b>	<b>69</b>	<b>children</b>	<b>82.72</b>	82.72		
	Sharing Labour cost= 4hrs*12mths	3,846.00	5,707.56							
	Sharing= Capital cost *.2	1,525.06								

Code	Activities	Cost				ABC Heirarchy				
		Cost	Total	No.	unit	unit cost	Unit	Batch	Product	Facility
	Sharing =Operating cost*.2	336.50								
3.1.2	Dental health education for Pregnant women		20,052.63	32	womem	626.64	626.64			
	Sharing Labour cost = 4hrs*52 weeks	16,666.02								
	Sharing= Capital cost*.4	3,050.12								
	Sharing =Operating cost*.2	336.50								
3.1.3	Dental Check up for pregnant women		19,458.35	32	women	608.07	608.07			
	Sharing Labour cost = 4hrs*52 weeks	16,666.02								
	Sharing= Capital cost*.3	2,287.59								
	Sharing =Operating cost*.3	504.75								
3.1.4	Dental health for children under 3 yearsold		11,523.29	222	children	51.91	51.91			
	Sharing Labour cost= 128hrs (.5*52*5ds-2hr)	10,256.01								
	Sharing= Capital cost*.1	762.53								
	Sharing =Operating cost*.3	504.75								
3.2	<b>Community Dental health</b>		3,021.78	12	times	251.82		251.82		
	Labour cost = 17hrs(staff 2)	1,401.14								
	Fuel	175.00								
	Supplies	942.62								
	Pick up+Tape player	503.03								
3.3	<b>School dental health</b>									
	Labour cost= 48 hrs. (staff 1)	6,843.82								
	Fuel	175.00								
	Supplies	942.62								
	Computer	343.38								
	Pick up	503.03								
			8,807.84							
3.3.1	Dental health education			3	groups	798.51		798.51		
	Labour cost= 3schools *4hrs.	1,710.95								
	Sharing =pick up cost *.25	125.76								
	Sharing = operting cost*.5	558.81								
			2,395.52							
3.3.2	Dental health check up			423	students	13.34	13.34			
	Labour cost= 3school*11 hrs.(0r 1.5days)	4,705.12								
	Sharing =capital cost *.75	377.27								
	Sharing = operting cost*.5	558.81								
			5,641.20							
3.3.3	Write in the form Tor Sor 003			3	reports	257.04		257.04		
	Labour cost= 3hr(staff 1)	427.74								
	Sharing =capital cost =computer	343.38								
			771.12							
3.4	<b>Supervision</b>			1	times	64.61			64.61	
	Labours	64.61								
			64.61							
	<b>Total</b>	<b>68,636.07</b>					1,382.68	1,307.36	64.61	-
4	<b>Maternal and Child Health</b>									
4.1	<b>Survey</b>			12	times	366.93		366.93		
	Labour cost= 1hrs*12moth (staff 1)	1,710.95								
	Building =19335.36*.1	1,933.54								
	supplies	275.00								
	Utilities (except fuel)=1450.92/3	483.64								
			4,403.13							
4.2	<b>Pregnancy Registration and Services</b>									
	Labour cost=17hrs (staff 3)+41hrs(staff1)									
	+ 35hrs(staff 2)	10,092.58								
			50,357.18							
	Blood test	19,200.00								

Code	Activities	Cost				ABC Heirarchy				
		Cost	Total	No.	unit	unit cost	Unit	Batch	Product	Facility
	Building =19335.36*.8	15,468.29								
	Medicine	4,537.30								
	supplies=998.57/3	332.86								
	Computer	242.51								
	Utilities (except fuel)	483.64								
4.2.1	Interview			32	persons	130.79	130.79			
	Labou cost=12 hrs(staff 3)	961.50	4,185.31							
	Weigh= Capital cost*.2	3,142.16								
	Weigh = (Supplies+Utilities)*.1	81.65								
4.2.2	Body check up			32	persons	117.63	117.63			
	Labou cost= 5hrs(staff 3)+12hrs(staff 1)	2,111.58	3,764.31							
	Weigh= Capital cost*.1	1,571.08								
	Weigh = (Supplies+Utilities)*.1	81.65								
4.2.3	Blood test			32	persons	682.56	682.56			
	Labou cost = 12hrs(staff 2)	989.04	21,841.77							
	Blood test	19,200.00								
	Weigh= Capital cost*.1	1,571.08								
	Weigh = (Supplies+Utilities)*.1	81.65								
4.2.4	Abdomen check			32	persons	293.52	293.52			
	Labou cost=12 hrs(staff 1,staff2)	2,699.99	9,392.56							
	Weigh= Capital cost*.4	6,284.32								
	Weigh = (Supplies+Utilities)*.5	408.25								
4.2.5	Vaccination TT			58	sharps	134.65	134.65			
	Labou cost=11 hrs(staff 2)+5hrs(staff 1)	1,619.52	7,809.55							
	Weigh= Capital cost*.1	1,571.08								
	Medicine (Vaccine)	4,537.30								
	Weigh = (Supplies+Utilities)*.1	81.65								
4.2.6	Reports			1	report	3,363.68			3,363.68	
	Labou cost=12hrs(staff 1)	1,710.95	3,363.68							
	Weigh= Capital cost*.1	1,571.08								
	Weigh = (Supplies+Utilities)*.1	81.65								
4.3	Follow up pre-delivery			8	persons	865.72	865.72			
	Labour cost = 41hrs(Staff 1)	5,845.76	6,925.74							
	Pick up	788.31								
	Fuel	291.67								
4.4	Follow up post-delivery			32	persons	226.83	226.83			
	Labour cost = 41hrs(staff 1)	5,845.76	7,258.60							
	Pick up and tape player	788.31								
	Fuel	291.67								
	supplies=998.57/3	332.86								
4.5	Follow up baby after delicvery			32	persons	226.83	226.83			
	Labour cost = 41hrs(staff 1)	5,845.76	7,258.60							
	Pick up	788.31								
	Fuel	291.67								
	supplies=998.57/3	332.86								
4.6	Monitoring and supervision			1	time	3,367.61			3,367.61	
	labour cost of DHO and PHO	349.26	3,367.61							
	labour cost of PCU= 4hrs(staff 1)	570.32								

Code	Activities	Cost				ABC Heirarchy				
		Cost	Total	No.	unit	unit cost	Unit	Batch	Product	Facility
	Grass cutter	30.85								
	Building	1,933.54								
	Utilities (except fuel)	483.64								
	<b>Total</b>	<b>79,570.85</b>					2,678.53	366.93	6,731.29	-
<b>5</b>	<b>Immunizational service</b>									
<b>5.1</b>	<b>Survey</b>									
	Labour = 24 hrs(staff 2)	1,978.08		12	times	536.33		536.33		
	Building = 14389.11/5	2,877.82								
	Fuel= 875/3	291.67	6,435.93							
	Pick-up = 2340.15/3	789.42								
	Utilities= 1079.75/5	215.95								
	supplies = 1132/4	283.00								
<b>5.2</b>	<b>Immunization Plan</b>									
	Labour= 48hrs (staff 2)	3,956.16		12	plans	622.53		622.53		
	Building = 14389.11/5	2,877.82								
	Computer= 274.91/2	137.46	7,470.38							
	Utilities= 1079.75/5	215.95								
	supplies = 1132/4	283.00								
<b>5.3</b>	<b>Community vaccination</b>									
	Labour = 39hrs(staff 3) + 49hrs(staff 1)	10,111.27								
	+84hrs(staff 2)	6,923.27								
	Vaccine	23,105.50								
	Building = 14389.11/5	2,877.82	44,597.90							
	Utilities= 1079.75/5	215.95								
	Fuel= 875/3	291.67								
	Pick-up = 2340.15/3	789.42								
	supplies = 1132/4	283.00								
5.3.1	Vaccination for Children under 1 yr.			45	children	836.81		836.81		
	Labour cost=49hrs(staff 1)+84hrs(staff 2)	13,909.67								
	Vaccine DTP,OPV,Measle, Hep.	20,180.50	37,656.45							
	Weigh capital cost*.8	2,933.79								
	Weigh operating cost*.8	632.49								
5.3.2	Vaccination for children 1.5-2 yrs			24	children	289.23		289.23		
	Labour cost=39hrs(staff3)	3,124.88								
	Vaccine	2,925.00	6,941.45							
	Weigh capital cost*.2	733.45								
	Weigh operating cost*.2	158.12								
<b>5.4</b>	<b>Preparation and Conclusion for reports</b>									
	Labour= 18hrs (staff 2)	1,483.56		12	reports	506.57		506.57		
	Building = 14389.11/5	2,877.82								
	Utilities= 1079.75/5	215.95	6,078.87							
	Fuel= 875/3	291.67								
	Pick-up = 2340.15/3	789.42								
	Computer= 274.91/2	137.46								
	supplies = 1132/4	283.00								
<b>5.5</b>	<b>Monitor and supervision</b>									
	Labour of DHO and PHO officer	211.36	3,422.52	1	time	3,422.52			3,422.52	
	Labour cost of PCU= 1hrs(staff 2)	82.42								

Code	Activities	Cost					ABC Heirarchy			
		Cost	Total	No.	unit	unit cost	Unit	Batch	Product	Facility
	Building = 14389.11/5	2,877.82								
	Utilities= 1079.75/5	215.95								
	Grass cutter	34.98								
	<b>Total</b>	<b>68,005.61</b>					1,126.04	1,665.43	3,422.52	-
<b>6</b>	<b>Family Planning</b>									
<b>6.1</b>	<b>Survey</b>			<b>1</b>	<b>time</b>	<b>2,991.63</b>		2,991.63		
	Labour = 7hrs(staff )	560.88								
	Building = 8993/5	1,798.64	2,991.63							
	Utilities= 674.84/5	134.97								
	supplies = 1502.16/4	375.54								
	Computer=364.81/3	121.60								
<b>6.2</b>	<b>Family Planning Services</b>									
	Labour = 140hrs(staff 1)+170hrs(staff 3)	33,582.40								
	Contraception	8,087.80								
	Building = 8993/5	1,798.64	45,945.72							
	Utilities= 674.84/5	134.97								
	Fuel=	525.00								
	Pick-up = 1441.38	1,441.38								
	supplies = 1502.16/4	375.54								
6.2.1	Interview			<b>556</b>	<b>persons</b>	<b>7.97</b>		7.97		
	Labour cost= 50hrs(staff 3)	4,006.25	4,433.81							
	Weigh = capital cost*.1	324.00								
	Weigh = recurrent cost*.1	103.55								
6.2.2	Health education			<b>556</b>	<b>persons</b>	<b>7.97</b>		7.97		
	Labour cost = 50hrs(staff 3)	4,006.25	4,433.81							
	Weigh = capital cost*.1	324.00								
	Weigh = recurrent cost*.1	103.55								
6.2.3	Contraceptive services									
6.2.3.1	Oral Contraceptive			<b>245</b>	<b>persons</b>	<b>17.72</b>		17.72		
	Labour cost = 20hrs(staff 3)	1,602.50								
	Oral peels	2,312.30	4,342.35							
	Weigh = capital cost*.1	324.00								
	Weigh = recurrent cost*.1	103.55								
6.2.3.2	Contraceptive injection			<b>217</b>	<b>persons</b>	<b>36.65</b>		36.65		
	Labour cost= 50hrs(staff 3)	4,006.25	7,953.31							
	Contraception Inj.	3,519.50								
	Weigh = capital cost*.1	324.00								
	Weigh = recurrent cost*.1	103.55								
6.2.3.3	Norplan			<b>2</b>	<b>persons</b>	<b>285.07</b>		285.07		
	Labour cost= 1hrs (staff 1)	142.58	570.13							
	Weigh = capital cost*.1	324.00								
	Weigh = recurrent cost*.1	103.55								
6.2.3.4	Loop			<b>4</b>	<b>persons</b>	<b>178.18</b>		178.18		
	Labour cost=2hrs(staff 1)	285.16	712.71							
	Weigh = capital cost*.1	324.00								
	Weigh = recurrent cost*.1	103.55								
6.2.3.5	Condom			<b>50</b>	<b>persons</b>	<b>45.62</b>		45.62		
	Labour cost=13hrs(staff1)	1,853.53	2,281.09							

Code	Activities	Cost					ABC Heirarchy			
		Cost	Total	No.	unit	unit cost	Unit	Batch	Product	Facility
	Weigh = capital cost*.1	324.00								
	Weigh = recurrent cost*.1	103.55								
6.2.3.6	Vasectomy		712.71	2	persons	356.36	356.36			
	Labour cost=2hrs(staff 1)	285.16								
	Weigh = capital cost*.1	324.00								
	Weigh = recurrent cost*.1	103.55								
6.2.3.7	Tubersectomy		18,249.81	138	persons	132.24	132.24			
	Labour cost=122hrs(staff 1)	17,394.70								
	Weigh = capital cost*.2	648.00								
	Weigh = recurrent cost*.2	207.10								
6.3	Records data		3,831.89	556	times	6.89	6.89			
	Labour = 17hrs(staff 2)	1,401.14								
	Building = 8993/5	1,798.64								
	Utilities= 674.84/5	134.97								
	supplies = 1502.16/4	375.54								
	Computer=364.81/3	121.60								
6.4	Analyze data		3,552.50	2	times	1,776.25			1,776.25	
	Labour = 14hrs(staff3)	1,121.75								
	Building = 8993/5	1,798.64								
	Utilities= 674.84/5	134.97								
	supplies = 1502.16/4	375.54								
	Computer=364.81/3	121.60								
6.5	Supervision		2,409.41	1	times	2,409.41			2,409.41	
	Labour of DHO and PHO officer	349.26								
	Labour cost of PCU= 1hrs(staff 3)	80.13								
	Building = 8993/5	1,798.64								
	Utilities= 674.84/5	134.97								
	Grass cutter	46.41								
	<b>Total</b>	<b>56,475.14</b>					1,074.68	2,991.63	4,185.66	-
7	Nutrition									
7.1	Survey		5,569.40	2	times	2,784.70		2,784.70		
	Labour cost = 8hrs of staff1 and staff3	1,781.64								
	Pick up= 1426.53/2	713.26								
	Fuel =525/2	262.50								
	VHV cost	2,812.00								
7.2	Weight		18,988.94	222	children	85.54	85.54			
	Labour cost = 87hrs(staff1)+70hrs(staff3)	18,013.17								
	Pick up= 1426.53/2	713.26								
	Fuel =525/2	262.50								
7.3	Analyze and conclusion		4,008.09	4	reports	1,002.02		1,002.02		
	Labour cost = 35hrs (staff2)	2,884.70								
	Computer	219.51								
	Supplies	903.88								
7.4	Supervision		599.89	1	times	599.89			599.89	
	Labour cost = DHO+PHO	349.26								
	Labour cost = 1hrs(staff1and staff2)	222.70								

Code	Activities	Cost				ABC Heirarchy				
		Cost	Total	No.	unit	unit cost	Unit	Batch	Product	Facility
	Grass cutter	27.93								
	<b>Total</b>	<b>29,166.32</b>					85.54	3,786.72	599.89	-
<b>8</b>	<b>Consumer protection</b>									
<b>8.1</b>	<b>Survey</b>			<b>1</b>	<b>times</b>	<b>1,303.76</b>		1,303.76		
	Labour cost = 7hrs(staff 2)	576.94								
	Computer=233.10*0.2	46.62	1,303.76							
	Pick up=1427.92*0.25	356.98								
	Fuel=525*0.25	131.25								
	Supplies=959.83*0.2	191.97								
<b>8.2</b>	<b>Consumer Protection Plan</b>			<b>3</b>	<b>Plans</b>	<b>751.54</b>		751.54		
	Labour cost= 21hrs(staff2)	1,730.82								
	Computer=233.10*0.6	139.86	2,254.61							
	Supplies=959.83*0.4	383.93								
<b>8.3</b>	<b>Food Inspection</b>			<b>47</b>	<b>shops</b>	<b>400.06</b>	400.06			
	Labour cost =125hrs(staff 2)+48hrs(staff 1)	17,146.30								
	Pick up=1427.92*0.75	1,070.94	18,802.96							
	Fuel=525*0.75	393.75								
	Supplies=959.83*.02	191.97								
<b>8.4</b>	<b>Evaluation</b>			<b>3</b>	<b>reports</b>	<b>656.47</b>		656.47		
	Labour cost=21hr(staff 2)	1,730.82								
	Computer=*0.2	46.62	1,969.40							
	Supplies=959.83*.02	191.97								
<b>8.5</b>	<b>Supervision</b>			<b>1</b>	<b>times</b>	<b>508.87</b>			508.87	
	Labour cost	396.79								
	Labour cost=1hr(staff 2)	82.42	508.87							
	Grass cutter	29.66								
	<b>Total</b>	<b>24,839.60</b>					400.06	2,711.76	508.87	-
<b>9</b>	<b>Sanitation and Environmental Health</b>									
<b>9.1</b>	<b>Assessments</b>			<b>935</b>	<b>households</b>	<b>2.18</b>	2.18			
	Labour cost=7hrs(staff 1)	998.06								
	VHV cost	703.00	2,039.58							
	Computer=0.75*190.24	142.68								
	Supplies =.25*783.36	195.84								
<b>9.2</b>	<b>Health need analysis</b>			<b>4</b>	<b>reports</b>	<b>2,096.17</b>		2,096.17		
	Labour cost=86hrs(staff 2)	7,088.11								
	Computer=0.15*190.24	28.54	8,384.68							
	Fuel=525*.5	262.50								
	Pick up=1423.54*.5	711.77								
	Supplies=587.52*.5	293.76								
<b>9.3</b>	<b>Sanitation and Environmental H. services</b>			<b>2</b>	<b>times</b>	<b>6,917.03</b>		6,917.03		
	Labour cost=88hrs(staff 1)	12,547.00								
	Computer=0.1*190.24	19.02	13,834.05							
	Fuel=525*.5	262.50								
	Pick up=1423.54*.5	711.77								
	Supplies=587.52*.5	293.76								
<b>9.4</b>	<b>Supervision</b>			<b>1</b>	<b>time</b>	<b>759.23</b>			759.23	
	Labour cost of DHO and PHO	592.45	759.23							
	Labor ocsr =1hr(staff 1)	142.58								

Code	Activities	Cost				ABC Heirarchy				
		Cost	Total	No.	unit	unit cost	Unit	Batch	Product	Facility
	Grass cutter	24.20								
	<b>Total</b>	<b>25,017.54</b>					2.18	9,013.19	759.23	-
<b>10</b>	<b>Epidemiology</b>									
<b>10.1</b>	<b>Data collection</b>			<b>58</b>	<b>reports</b>	<b>87.22</b>	87.22			
	Labour cost= 58hrs(staff 2)	4,780.35	5,058.53							
	Computer=217.42*.25	54.36								
	Supplies=895.27*.25	223.82								
<b>10.2</b>	<b>Data Analysis and Planning</b>			<b>58</b>	<b>persons</b>	<b>186.99</b>	186.99			
	Labour cost = 36 hrs (staff 1)+58hrs(staff 2)	9,913.22	10,845.53							
	Computer=217.42*.25	54.36								
	Pick up=958.29*.5	479.14								
	Fuel=350*.5	175.00								
	Supplies=895.27*.25	223.82								
<b>10.3</b>	<b>Surveillance and monitoring</b>			<b>52</b>	<b>reports</b>	<b>105.70</b>		105.70		
	Labour cost = 52hrs(staff 2)	4,285.83	5,496.32							
	Computer=217.42*.5	108.71								
	Pick up=958.29*.5	479.14								
	Fuel=350*.5	175.00								
	Supplies=895.27*.5	447.63								
<b>10.4</b>	<b>Superevision</b>			<b>1</b>	<b>times</b>	<b>705.48</b>			705.48	
	Labour cost of DHO and PHO	348.14	705.48							
	Labour cost of PCU= 4hr(staff 2)	329.68								
	Grass cutter	27.66								
	<b>Total</b>	<b>22,105.86</b>					274.21	105.70	705.48	-
<b>11</b>	<b>Prevention and control of communicable diseases</b>									
<b>11.1</b>	<b>Community survey</b>			<b>935</b>	<b>households</b>	<b>28.71</b>	28.71			
	Labour cost = 7hours*4 days(staff 2)	2,307.76	26,845.96							
	Computer=152*.4	61.05								
	Pick up=8440.14*.4	3,376.06								
	Fuel=3150*.4	1,260.00								
	Supplies= 628.41*.25	157.10								
	VHV cost= 133*37persons*4 days	19,684.00								
<b>11.2</b>	<b>Planning</b>			<b>2</b>	<b>plans</b>	<b>236.39</b>		236.39		
	Labour cost = 2hrs (staff 1)	285.16	472.78							
	Computer=152*.2	30.52								
	Supplies= 628.41*.25	157.10								
<b>11.3</b>	<b>Communicable diseases campaign</b>									
	VHV cost= 133*37persons*5 days	24,605.00	138,608.11							
	Labour cost = 7hrs*8days(staff 1 and staff 2)	12,599.97								
	Pick up=8440.14*.6	5,064.08								
	Fuel=3150*.6	1,890.00								
	Supplies= 628.41*.25	157.10								
	DHF proj. matterial	57,779.53								
	Rabies proj. matterial	34,256.43								
	Condoms	2,256.00								
11.3.1	Action against DHF Campaign			<b>790</b>	<b>households</b>	<b>121.45</b>	121.45			
	labour cost=7hrs*5days(staff 1,staff 2)	7,874.98	95,948.46							
	Weigh = 2047.10(Capital cost)*.8	4,051.27								

Code	Activities	Cost				ABC Heirarchy				
		Cost	Total	No.	unit	unit cost	Unit	Batch	Product	Facility
	Weigh = 2047.10(Recurrent cost)*.8	1,637.68								
	VHV cost= 133*37persons*5 days	24,605.00								
	DHF proj. matterial	57,779.53								
11.3.2	Action against Rabies Campaign			350	dogs	104.85	104.85			
	labour cost= 21hrs (staff 2)	1,730.82								
	Weigh = Capital cost	506.41	36,698.37							
	Weigh = Recurrent cost	204.71								
	Rabies proj. matterial and labour cost(Live stock)	34,256.43								
11.3.3	Action against AIDS Campaign			68	persons	87.67	87.67			
	Condoms	2,256.00								
	labour cost= 21hrs (staff 1)	2,994.17	5,961.29							
	Weigh = Capital cost	506.41								
	Weigh = Recurrent cost	204.71								
11.4	<b>Conclusion and report</b>			4	reports	167.04		167.04		
	Labour cost = 2hrs (staff 1)+2hrs(staff 2)	450.00	668.15							
	Computer=152*.4	61.05								
	Supplies= 628.41*.25	157.10								
11.5	<b>Supervision</b>			1	time	2,153.78			2,153.78	
	Labour cost of DHO	146.95	2,153.78							
	Labour cost of PHO	1,987.41								
	Grass cutter	19.42								
	<b>Total</b>	<b>168,748.78</b>					342.68	403.43	2,153.78	-
12	<b>Prevention and control of non-communicable diseases</b>									
12.1	<b>Community survey</b>			5	villages	565.94		565.94		
	Labour cost = 4hrs(staff 1)	570.32	2,829.69							
	Computer=140.07*.25	35.02								
	Supplies= 576.76*.2	115.35								
	VHV cost= 133/7hrs*3hrs*37persons	2,109.00								
12.2	<b>Planning</b>			1	report	4,033.12		4,033.12		
	Labour cost = 7hrs(staff 1)+35hrs(staff 2)	3,882.75	4,033.12							
	Computer=140.07*.25	35.02								
	Supplies= 576.76*.2	115.35								
12.3	<b>Conduct pap smear, hypertension diabetes</b>									
	Labour cost = 35hrs(satff 1 and satff 2)	7,874.98	44,588.28							
	Pick up	1,418.41								
	Fuel	525.00								
	Supplies= 576.76*.4	230.70								
	VHV cost= 133/7hrs*4hrs*37persons	2,812.00								
	Sugar tester	490.00								
	Material for diadetes and HT proj.	31,237.19								
12.3.1	<b>Pap smear</b>			26	persons	79.65	79.65			
	Labour cost = 13hrs(satff 1)	1,853.53	2,070.95							
	Weigh = capital cost*	141.84								
	Weigh = Recurrent cost*	75.57								
12.3.2	<b>HT and diabetes screen</b>			230	persons	175.85	175.85			
	VHV cost= 133/7hrs*4hrs*37persons	2,812.00	40,446.39							
	Sugar tester	490.00								
	Material for diadetes and HT proj.	31,237.19								

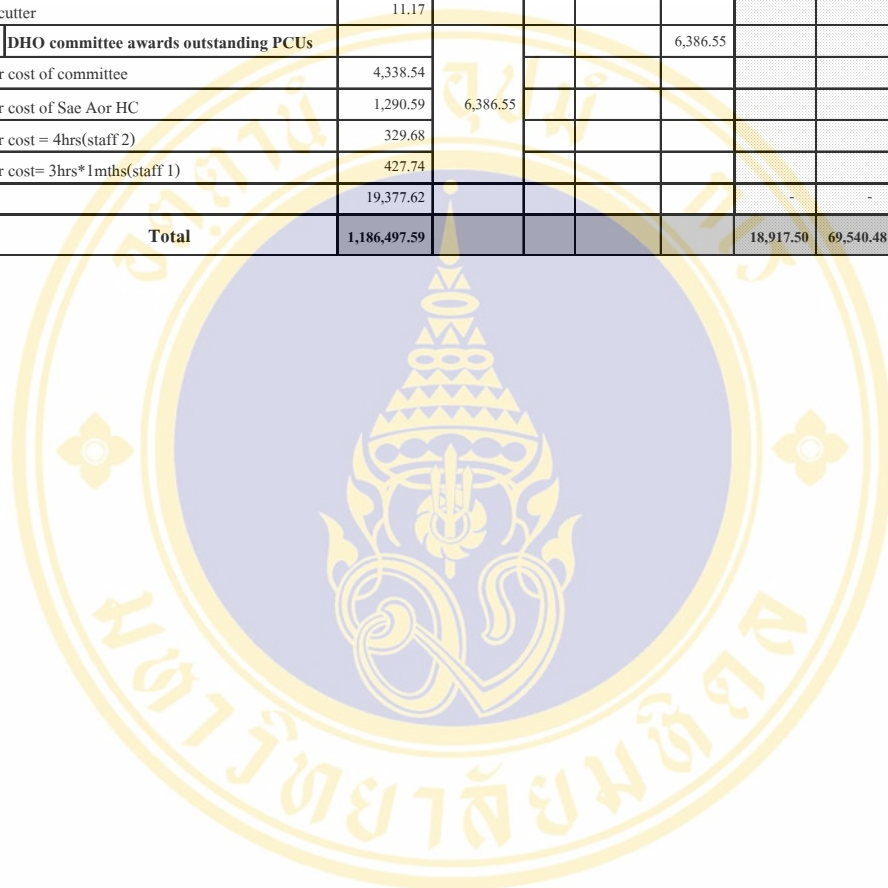
Code	Activities	Cost				ABC Heirarchy				
		Cost	Total	No.	unit	unit cost	Unit	Batch	Product	Facility
	Weigh = capital cost*	1,134.73								
	Weigh = Recurrent cost*	604.56								
	Labour cost = 9hrs(staff1)+35hrs(staff 2)	4,167.91								
12.3.3	Breast check up		2,070.95	26	persons	79.65	79.65			
	Labour cost = 13hrs(staff 1)	1,853.53								
	Weigh = capital cost*	141.84								
	Weigh = Recurrent cost*	75.57								
12.4	<b>Conclusion and report</b>			1	report	1,339.27		1,339.27		
	Labour cost = 14hrs(staff 2)	1,153.88								
	Computer=140.07*.5	70.03	1,339.27							
	Supplies= 576.76*.2	115.35								
12.5	<b>Supervision</b>			1	time	815.96			815.96	
	Labour cost of DHO	146.95	815.96							
	Labour cost of PHO	201.19								
	Labour cost of PCU= 2hr(staff 2)+2hrs(staff 1)	450.00								
	Grass cutter	17.82								
	<b>Total</b>	<b>53,606.32</b>						335.16	5,938.33	815.96
13	<b>Mental Health and drug control</b>									
13.1	<b>Survey and data collection</b>									
	Labour cost = 2hrs*4days(staff 2)	659.36	7,122.33							
	Computer=315.68*.25	78.92								
	VHV cost= 133/7hrs*1hrs*37persons	4,921.00								
	Pick up=2840.45*.2	568.09								
	Fuel=1050*.2	210.00								
	Supplies=1299.86*.25	324.97								
	Drinking water and spare part of loud speaker	360.00								
13.1.1	Pateint registration and advices			42	Persons	18.00	18.00			
	labour cost = 2hrs(staff 2)	164.84	755.83							
	Weigh = capital cost*.5	323.50								
	weigh = Recurrent cost*.5	267.48								
13.1.2	<b>Drug abuse survey and registrations</b>			25	Persons	254.66	254.66			
	labour cost = 6hrs(staff 2)	494.52	6,366.51							
	Weigh = capital cost	323.50								
	weigh = Recurrent cost	267.48								
	Drinking water and spare part of loud speaker	360.00								
	VHV cost= 133/7hrs*1hrs*37persons	4,921.00								
13.2	<b>Planning and cooperating</b>			24	courses	587.15		587.15		
	Labour cost = 24 times *4hrs(staff 1)	13,687.63	14,091.52							
	Computer=315.68*.25	78.92								
	Supplies=1299.86*.25	324.97								
13.3	<b>Rehabilitation</b>			20	patients	440.22	440.22			
	Labour cost = 1hrs*7patients*12times(staff 2)	6,923.27	8,804.42							
	Supplies=1299.86*.25	324.97								
	Pick up=2840.45*.4	1,136.18								
	Fuel=1050*.4	420.00								
13.4	<b>Follow up for drug abuse</b>									
	Labour cost = 4hrs*4times*7(staff 2)	9,231.03	11,270.01							
	Computer=315.68*.5	157.84								

Code	Activities	Cost				ABC Heirarchy					
		Cost	Total	No.	unit	unit cost	Unit	Batch	Product	Facility	
	Supplies=1299.86*.25	324.97									
	Pick up=2840.45*.4	1,136.18									
	Fuel=1050*.4	420.00									
13.4.1	Follow up to take medication		9,543.50	20	persons	477.17	477.17				
	Labour cost = 24times*4hrs(staff 2)	7,912.31									
	Weigh = Capital cost*.8	1,035.22									
	Weigh = Recurrent cost*.8	595.97									
13.4.2	Follow up to check urine test			1,726.52	20	persons	86.33	86.33			
	Labour cost = 16hrs(staff 2)	1,318.72									
	Weigh = Capital cost	258.80									
	Weigh = Recurrent cost	148.99									
<b>13.5</b>	<b>Supervision</b>		738.58	1	time	738.58			738.58		
	Labour cost of DHO	332.39									
	Labour cost of PHO	201.19									
	Labour cost of PCU= 2hr(staff 2)	164.84									
	Grass cutter	40.16									
	<b>Total</b>	<b>42,026.86</b>						1,276.38	587.15	738.58	-
<b>14</b>	<b>Health Education</b>										
<b>14.1</b>	<b>Health Education in PCU</b>										
14.1.1	Group Health education		10,973.49	11	times	997.59		997.59			
	Labour cost = 4hrs*11times(staff 3)	3,525.50									
	Supplies=1948*.25	487.00									
	Building=7194.55*.9	6,475.10									
	Utilities=539.88*.9	485.89									
14.1.2	Manage Health Information boards			4,716.32	4	times	1,179.08		1,179.08		
	Labour cost = 1.5 days(10hrs)*4times(staff 3)	3,205.00									
	Computer=250.87	250.87									
	Supplies=1948*.25	487.00									
	Building=7194.55*.1	719.46									
	Utilities=539.88*.1	53.99									
<b>14.2</b>	<b>Community Health Education</b>										
14.2.1	Health education at the villages		15,834.04	60	times	263.90		263.90			
	Labour cost = 60hrs(staff 1 and staff 2)	13,499.97									
	Pick up=2365.79*.6	1,419.48									
	Fuel=875*.6	525.00									
	Supplies=1948*.20	389.60									
14.2.2	Health education by using loudspeakers		2,280.00	24	times	95.00		95.00			
	VHV=133/7hrs*5 persons*1hr*24 times	2,280.00									
<b>14.3</b>	<b>School health education</b>										
	Labour cost = 28hrs(staff 2)+8hrs(staff 1)	3,448.39	5,329.11	36	times	148.03		148.03			
	Pick up=2365.79*.4	946.32									
	Fuel=875*.4	350.00									
	Supplies=1948*.3	584.40									
<b>14.4</b>	<b>Supervision</b>			380.06	1	time	380.06			380.06	
	Labour cost of DHO	146.95									
	labour cost of PHO	201.19									

Code	Activities	Cost					ABC Heirarchy			
		Cost	Total	No.	unit	unit cost	Unit	Batch	Product	Facility
	Grass cutter	31.92								
	<b>Total</b>	<b>39,513.02</b>					-	2,683.60	380.06	-
<b>15</b>	<b>Home Visit</b>									
<b>15.1</b>	<b>Survey and consults</b>									
	Labour cost of PCU	31,088.41		771	households	76.69	76.69			
	Labour cost of CUP	11,603.47								
	Labour cost of 2 HC's	8,408.84								
	Pick up	4,711.50	59,124.26							
	Fuel	1,750.00								
	Computer	305.23								
	Supplies	1,256.82								
<b>15.2</b>	<b>Supervision</b>			1	times	441.11			441.11	
	Labour cost of PHO	201.19	441.11							
	Labour cost of DHO	201.08								
	Grass Cutter	38.83								
	<b>Total</b>	<b>59,565.37</b>					76.69	-	441.11	-
<b>16</b>	<b>Administrations and Cooperation</b>									
<b>16.1</b>	<b>Coporation and management</b>									
16.1.1	Vision		900.00							900.00
	Labour cost=4hrs(staff 1)	570.32								
	Labour cost=4hrs(staff 2)	329.68								
16.1.2	Finance		16,268.24							16,268.24
	Labour cost =3hrs*12mth(staff 1)	5,132.86								
	Computer=1445.64*.25	334.23								
	Supplies=6913.68*.25	1,616.51								
	Building=34174.13*.25	8,543.53								
	Utilities=2564.41*.25	641.10								
16.1.3	Report		28,628.00							28,628.00
	Labour cost = 3hrs*12 month(staff 1)	5,132.86								
	Labour cost = 35hrs(1week)*12month(staff 5)	12,359.76								
	Computer=1445.64*.25	334.23								
	Supplies=6913.68*.25	1,616.51								
	Building=34174.13*.25	8,543.53								
	Utilities=2564.41*.25	641.10								
16.1.4	Administration and documentation		45,873.19							45,873.19
	Labour cost =1hrs*12mths(staff 1)	1,710.95								
	Labour cost = (Somcheun)	17,300.71								
	Labour cost= 3hrs*52weeks(staff 5)	4,590.77								
	Computer=1445.64*.5	668.47								
	Supplies=6913.68*.5	3,233.02								
	Building=34174.13*.5	17,087.07								
	Utilities=2564.41*.5	1,282.21								
16.1.5	Coordination		3,522.21							3,522.21
	Labour cost = 3hrs*4 proj(staff 1)	1,710.95								
	Labour cost = 4hrs(staff 2)	329.68								
	Labour cost= 2hrs(staff 5)	58.86								
	Pick-up=1083.84	1,072.72								

Code	Activities	Cost					ABC Heirarchy			
		Cost	Total	No.	unit	unit cost	Unit	Batch	Product	Facility
	Fuel=350	350.00								
<b>16.2</b>	<b>Evaluation</b>									5,844.62
	Grass cutter	170.09	5,844.62							
	Labour cost DHO	2,886.21								
	Labour cost PHO	2,788.33								
	<b>Total</b>	<b>101,036.27</b>					-	-	-	101,036.27
<b>17</b>	<b>Conference and meeting</b>									
<b>19.1</b>	<b>Health Team supervision</b>									86,987.02
	Labour cost Health Team	52,442.10								
	Labour cost =12mth*3weeks(staff 1)	5,132.86								
	Labour cost=3.5hrs*52weeks+4hrs(Anusara,Somcheun)	10,900.14								
	labour cost= 4hrs*12mths(staff 3)	3,846.00								
	Building=20684.34*.5	10,342.17	86,987.02							
	Utilities=1552.14*.5	776.07								
	Pick up=2414.73*.40	965.89								
	Fuel=875*.4	350.00								
	Supplies=3004.32*.5	1,502.16								
	Computer=729.62	729.62								
<b>17.2</b>	<b>Meeting in CUP</b>									2,939.22
	Labour cost=8hrs*2times(staff 1)	2,281.27	2,939.22							
	Pick up=2414.73*.20	482.95								
	Fuel=875*.2	175.00								
<b>17.3</b>	<b>Meeting in PCU</b>									10,968.84
	Labour cost=12hrs(staff 1 and staff 3)	2,672.46								
	Labour cost=12hrs(staff 4 and staff 5)	703.23								
	Labour cost=12hrs(staff 2)	989.04								
	labour cost of DHO	201.08	10,968.84							
	Grass cutter	92.82								
	Building=20684.34*.25	5,171.09								
	Utilities=1552.14*.25	388.04								
	Supplies=3004.32*.25	751.08								
<b>17.4</b>	<b>VHV meeting in PCU</b>									44,874.40
	VHV cost=136/7*3hrs*12mth	25,308.00								
	Labour cost=36hrs(staff 1, staff 3)	8,017.37								
	Labour cost=36hrs(staff 4 and staff 5)	2,109.70								
	Labour cost=22hrs(staff 2)	1,813.24								
	Building=20684.34*.25	5,171.09	44,874.40							
	Utilities=1552.14*.25	388.04								
	Pick up=2414.73*.40	965.89								
	Fuel=875*.4	350.00								
	Supplies=3004.32*.25	751.08								
	<b>Total</b>	<b>145,769.47</b>					-	-	-	145,769.47
<b>18</b>	<b>Monitoring and Evaluations</b>									
<b>18.1</b>	<b>Inventory and writing reports</b>									9,977.05
	Labour cost= 3hrs*11mths(staff 1)	4,705.12	9,977.05							
	Labour cost = 3hrs*12mths(staff 3)	2,884.50								
	pick up	1,413.07								
	fuel	525.00								

Code	Activities	Cost				ABC Heirarchy				
		Cost	Total	No.	unit	unit cost	Unit	Batch	Product	Facility
	computer	87.80								
	supplies	361.55								
<b>18.2</b>	<b>Monitoring and evaluation</b>					3,014.02				3,014.02
	Labour cost of PHO	2,352.67								
	labour cost = 4hrs(staff 3)	320.50	3,014.02							
	Labour cost = 4hrs(staff 2)	329.68								
	Grass cutter	11.17								
<b>18.3</b>	<b>DHO committee awards outstanding PCUs</b>					6,386.55				6,386.55
	Labour cost of committee	4,338.54								
	Labour cost of Sae Aor HC	1,290.59	6,386.55							
	Labour cost = 4hrs(staff 2)	329.68								
	Labour cost= 3hrs*1mths(staff 1)	427.74								
		19,377.62								19,377.62
	<b>Total</b>	<b>1,186,497.59</b>					<b>18,917.50</b>	<b>69,540.48</b>	<b>56,341.90</b>	<b>266,183.36</b>





**Table F1: Total cost of Salalumduan PCU in FY 2003**

Tasks	No.	Activities	Government Budget										Total Supporting budget (B)	TOTAL (A)+(B)
			Labour Cost		Operating cost			Capital cost	Non UC	Total budget (A)	Supporting budget			
			Salary and fringe benefit	Government employee	Material and Supplies	Utilities	LC and VHV cost				Others (not incld LC) and Projects costs			
Community health Promotion	1	Community survey and family folder	65,674.91	3,047.35	3,047.36	1,750.00	8,790.17	3,216.67	85,526.46	36,000.00	8,000.00	44,000.00	129,526.46	
	2	School Health	32,396.42	-	11,221.39	875.00	2,768.10	-	47,260.91	6,249.51	-	6,249.51	53,510.42	
	3	Dental Public Health	55,743.40	-	3,027.85	889.88	8,974.95	-	68,636.07	-	-	-	68,636.07	
Population health Promotion	4	Maternal and Child Health	30,260.40	-	5,810.87	2,325.92	21,973.66	19,200.00	79,570.85	-	-	-	79,570.85	
	5	Immunization	24,746.11	-	24,237.50	1,954.75	17,067.25	-	68,005.61	-	-	-	68,005.61	
	6	Family Planning	37,095.55	-	7,333.96	1,199.84	10,845.79	-	56,475.14	-	-	-	56,475.14	
	7	Nutrition surveillance	23,251.47	-	903.88	525.00	1,673.97	-	26,354.32	2,812.00	-	2,812.00	29,166.32	
	8	Consumer Protection	21,664.09	-	959.83	525.00	1,690.67	-	24,839.60	-	-	-	24,839.60	
	9	Sanitation and Environmental H.	21,368.19	-	783.36	525.00	1,637.98	-	24,314.54	703.00	-	703.00	25,017.54	
Preventive and disease control	10	Epidemiological surveillance	19,657.23	-	895.27	350.00	1,203.37	-	22,105.86	-	-	-	22,105.86	
	11	Prevention and control of communicable disease	17,777.24	-	2,884.41	3,150.00	8,612.17	-	32,423.82	44,289.00	92,035.96	136,324.96	168,748.78	
	12	Prevention and control of non-communicable disease	14,280.07	-	576.76	525.00	2,066.30	-	17,448.13	4,921.00	31,237.19	36,158.19	53,606.32	
	13	Mental health/ drug control	31,199.71	-	1,659.86	1,050.00	3,196.29	-	37,105.86	4,921.00	-	4,921.00	42,026.86	
Community Health Promotion Supporting	14	Health Education	24,027.01	-	1,948.00	1,414.88	9,843.14	-	37,233.02	2,280.00	-	2,280.00	39,513.02	
	15	Home visit	51,502.99	-	1,256.82	1,750.00	5,055.56	-	59,565.37	-	-	-	59,565.37	
Treatment Services	16	Treatment	234,029.80	50,691.49	360,884.12	6,261.18	80,891.07	14,240.00	746,997.66	-	-	-	746,997.66	
	17	Referral	10,356.54	-	352.94	700.00	1,977.50	-	13,386.98	-	-	-	13,386.98	
Administrations	18	Administration	20,591.84	34,310.09	6,466.05	2,914.41	36,753.88	-	101,036.27	-	-	-	101,036.27	
Human resource Development	19	Meeting/Conference	77,395.42	13,713.07	3,004.32	2,427.14	23,921.52	-	120,461.47	25,308.00	-	25,308.00	145,769.47	
	20	Evaluation/Supervision	16,979.02	-	361.55	525.00	1,512.04	-	19,377.62	-	-	-	19,377.62	
		<b>Total</b>	829,997.41	101,762.00	437,616.11	31,638.00	250,455.38	36,656.67	1,688,125.56	127,483.51	131,273.15	258,756.66	1,946,882.23	

## BIOGRAPHY

<b>NAME</b>	Wannaporn Sopanna
<b>DATE OF BIRTH</b>	December 15, 1964
<b>PLACE OF BIRTH</b>	Bangkok, Thailand
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