

# SYSTEM ANALYSIS IN APPLICATION TO SETTING UP THE SCHOOL OF DEPUTY DISTRICT OFFICER IN THAILAND

by Arun Ractham\*

## Introduction

The building of modern nations depends upon the development of people and organization of human activity, capital, natural resources, foreign aid, and international trade, but, of course, these play important roles in economic growth, but none is more important than manpower. In this paper the writer would like to analyze from the perspective of the training and energizing of human resources. In other words, the products or services produced by the government personnel may be classified. In accordance with many different themes, an example of the major theme in the development of men's potential as underscored in a statement of professor Kenneth Boulding of University of Colorado that:

...it must never be forgotten that the ultimate thing which any society is producing is people. All other things are intermediate organizations. No matter how rich we are or how powerful we are, if we do not produce people who can at least begin to expand into the enormous potential of man, the society must be adjudged a failure....<sup>1</sup>

One way to prevent failure is "training" manpower. In the recent literature of administration, both private business and government, no subject has received more attention than the training and development of managers and executives. Recognition of the need for more and better executives of government officials is now realized of great importance, especially in nations undergoing rapid change such as the developing nations. Changing economic and social conditions but increasing pressure on those conducting public business. In countries such as Thailand where the public sector plays a key role in development, upgrading of public officials is especially important. Frederick Harbison and Charles A. Myers expressed the same idea that in "the goals of modern societies, and we have already stressed, are political, cultural and social as well as economic. Human resource development is a necessary condition for achieving all of them."<sup>2</sup>

Thailand's major effort in this area was the establishing of an in-service training program for the officials such as the District Officer Academy in the year 1963 with American assistance.

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<sup>1</sup> The George Washington University, *Planning for Educational Development in a Planning, Programming, Budgeting System* (Washington, D.C.: National Education Association, 1968), p. 13.

<sup>2</sup> Frederick Harbison and Charles A. Myers, *Education, Manpower, and Economic Growth: Strategies of Human Resource Development* (New York: McGraw-Hill Book Co., 1964), p. 13.

The district officers go through several months of intensive training. District officers were chosen as the initial students because they are the key officials in rural areas of Thailand. If they can be reoriented from their traditional "law and order" attitude and trained to lead in services and development progress in Thailand would be greatly accelerated. It was assumed that within the limits of government budgets, in-service training would be extended to a wide range of the other positions. In other words, there should be institutions for training, not only for the district officers but also all the officials, especially the ones working in the district areas. These officials always work with the local people. All levels of officials working in rural areas through Thailand should be included in the program.

In developing the program, the Ministry of Interior, has received some advice from his subordinates. This advice is to train the deputy district officer both before and during their duties, because these officials have to be in contact with local people continuously.

Before the Ministry of Interior decides upon the exact program, he would like to receive reliable information, thereby assuring him of the exact details in the program. These questions will be raised: How could he get the best information? What is the best method in helping him to decide upon the program? Can he find better alternatives in setting up the school of Deputy District Officer or not? Because in the district areas, Deputy District Officer is only one of the many elements to be solved. There are other officials such as: the land officers, the educational officers, the rice officers, the forestry officers and the police officers and so on. Do these officials have to be trained to change the attitudes and work with people without arbitrary attitudes?

Systems analysis is one of the better ways in analyzing these questions concerning what he should do before he can determine the exact program. He should find the "facts," "impacts," "outputs," "inputs" by the systematic approach. Because this work is concerned with the public interests, the decision maker should carefully design the program.

Fortunately many scholars have introduced systematic methods to help decision makers in sharpening their judgments. Cost-benefit or benefit-cost analysis or systems have been introduced and applied. Although they are still limited in their effectiveness they have played important roles in decision-making process.

The writer does believe in the usefulness of the systematic method of the systems analysis because:

...systems analysis may still look like a purely rational approach to decision-making, a coldly objective, scientific method free from preconceived ideas, partisan bias, judgment and tuition.....<sup>3</sup>

<sup>3</sup> E.S. Quade, "Systems Analysis Technique for PPB," in F.J. Lyden and E.G. Miller, *Planning, Programming, Budgeting: A Systems Approach to Management* (Chicago: Markham Publishing Co., 1968), p. 305.

And now the "believing" is increased when a systems analysis is an analytical study designed to help a decision-maker identify a preferred choice among possible alternatives. It is characterized by a systematic and rational approach, with assumptions made explicit, objectives and criteria clearly defined, and alternative courses of action compared in the lights of their possible consequences.<sup>4</sup>

The writer would like to focus on two things in presenting this paper. First, he would like to discuss the general concepts of systems analysis. Secondly, he will try to apply the systems analysis for analyzing the training program in order to give the Minister of Interior the systematic information before he decides whether or not to set up the Deputy District Officer School in Thailand. Therefore the writer acts as a researcher or analyst for him. In doing so, the writer's job is to find answers to the questions: What is the correct way to establish the program? What are the alternative ways of achieving it? What would they cost, and how effective would they be? What should the decision-maker need to know in order to make a choice? And how to collect and organize this information for him? In doing this, the writer's experiences as a deputy district officer and an instructor will be utilized.

#### What is the Systems Analysis?

It is rather hard to produce a good brief of its definition. The term "systems analysis" means many things to many people. Alain C. Enthoven described that:

...Systems analysis is nothing more than quantitative or enlightened common sense aided by modern analytical methods. What we seek to do in the systems analysis approach to problems is to examine an objective in its broadest sense, including its reasonableness or appropriateness from a rational policy view, and then develop for the responsible decision-maker information that point of will best help him to select the preferred way of achieving it. This process of selection recognizes that we first identify alternatives ways of achieving the objective and then estimate, in quantitative terms, the benefits (effectiveness) to be derived from, the costs of, each alternative.....<sup>5</sup>

While someone tried to define it in another aspect such as E.S. Quade defined systems analysis that:

...broadly speaking, any orderly analytical designed to help a decisionmaker identify a preferred course of action from among possible alternatives might be termed a "systems analysis" refers to formal inquiries intended to advise a decisionmaker on the policy choices...systems analysis represents an approach to, or way of looking at, complex problems of choice under uncertainty....<sup>6</sup>

<sup>4</sup> *Ibid.*, pp. 309-310.

<sup>5</sup> Alain C. Enthoven, "The Systems Analysis Approach," in Harley H. Hinrichs and Graems M. Taylor, *Program Budgeting and Benefit-Cost Analysis* (California: Good Year Publishing Co., Inc., 1969), p. 160

<sup>6</sup> E.S. Quade, "Systems Analysis Technique for PPB," in F.J. Lyden and E.G. Miller, *op. cit.*, p. 292.

Systems analysis can help the decision-maker approach this task systematically by revealing to him the differences in effectiveness associated with differences in resources costs for those courses of action which contribute to the attainments of a given objective or set of objectives. Then it is up to the decision maker to establish a choice criterion which will answer the questions. Is the difference in effectiveness which he get by choosing action A instead of action B worth the difference in cost?<sup>7</sup> Systems analysis is derived from operations research which came into use during World War II. Although there is no clear separation between operations research and systems analysis, a rough separation may perhaps be made. The less that is known about objectives, the more they conflict. The larger the number of elements to be considered, the more uncertain the environment, the more likely it is that the work will be called a systems analysis. In systems analysis there is ore judgment and intuitior and less reliance on quantitative methods than in operations research.<sup>8</sup>

It is discernible from the given descriptions that there are both pro and con about the usefulness of systems analysis. However, no one would deny that it is an analytical approach that can be used as an aid to the decision maker in tackling of alternative problems. Good systems analysis John Haldi expressed that:

...does not replace the decision maker, but is an aid to him. When confronted by com plex issues, diverse opinions, and alternative ways to go, it helps him zero inon his final decision by uncovering irrelevant issues; pinpointing crucial assumptions and facts which underlie alternative recommendations; and tracing out the knowable consequences and costs of each alternative...<sup>9</sup>

Then with the best possible knowledge of what is knowable and quantifiable about the decision, the decision maker can use informed judgment and experience to take into account the intangible and unquantified aspects of the problems.

In conclusion, systems analysis is a combination of a set of tools, philosophies, and techniques which is designed to facilitate choices between alternatives in a fashion which maximizes the effectiveness of resources available to the organization. Basic of analysis is the flow of information available to the firm. This information takes the forms of intelligence about costs and the effectiveness of different ways of meeting organizational objectives.

#### How To Do With Systems Analysis

It seems to the writer that there is a great deal that might be expressed the idea about the systems analysis approach. In this paper, the writer would like to discuss: how to do with the

<sup>7</sup> Laurence E. Lynn, Jr., "Systems Analysis - Challenge to Military Management," in David E. Cleland and William R. King, *Systems, Organizations, Analysis, Management* (New York: McGraw-Hill Book Co., 1969), p. 219.

<sup>8</sup> Aaron Wildavsky, "The Political Economy of Efficiency: Cost-Benefit Analysis, Systems Analysis, and Program Budgeting," in F.J. Lyden and E. G. Miller, *op.cit.*, pp. 380-381.

<sup>9</sup> John Haldi, "The Role of Analysis," in Harley H. Hinrichs and Graeme M. Taylor, *op.cit.*, p. 153.

systems analysis is a problem, because the people who master in this field do not really or clearly give explanation which is easy to follow. They usually give explanations in broad sense about the principle methods and process of systems analysis. For instance; Stanley Young pointed out the steps to the design process of systems analysis which further analyzes the function of the designer, by expressing that:

...given a statement of the problem or the type of system with which one is concerned, the next and key step is the construction of a model of the system. Such a model would stipulate the output, or mission, of the system and the inputs of which there are three: the input upon which the process is to operate or that input which enters the system; environmental inputs which effect the process; and instrument or control inputs which modify the operation of the process....<sup>10</sup>

And E.S. Quade mentioned the cycle of process of systems analysis as follows: formulating the problem, selecting objectives, designing alternatives, collecting data, building models, weighing cost against effectiveness, testing for sensitivity, questioning assumptions, reexamining objectives and opening new alternatives.<sup>11</sup> He also gave the following principles of good systems analysis: to tackle the right problem; the analysis must be systems oriented. An effort should be made to extend the boundaries of the inquiries as far as required for the problem at hand, to find what interdependencies are important, and to study the entire complex systems; to recognize the presence of uncertainty; attempting to discover new alternatives as well as to improve the obvious one; in problems of public policy or national security the analyst should strive to attain the standards traditional to science - these are intersubjectivity explicitness and objectivity;<sup>12</sup> and the precise description of the systems analysis process would be what given by David I. Cleland and William R. King that:

...beginning with the collection and analysis of input data which describes the general decision-making process. After the basic data have been collected and assembled the decision maker predicts the outcomes which may result from each of the various alternatives available to him. Having done this he evaluates the out comes on the basic of the outcomes to which each may lead. The best alternative is selected and an action taken which impacts on the "world" the uncontrollable factors which affect the actual outcome of measures the the decision situation. When the results of the action are known the decision maker results and compares them with the predicted outcomes. The process can then begin anew with new predictions which incorporate the lessons learned in comparing the predictions with the actual outcomes....<sup>13</sup>

<sup>10</sup> Stanley Young, "Organization as a Total System," in David I. Cleland and William R. King, *Systems, Organizations, Analysis, Management, op. cit.*, p. 57.

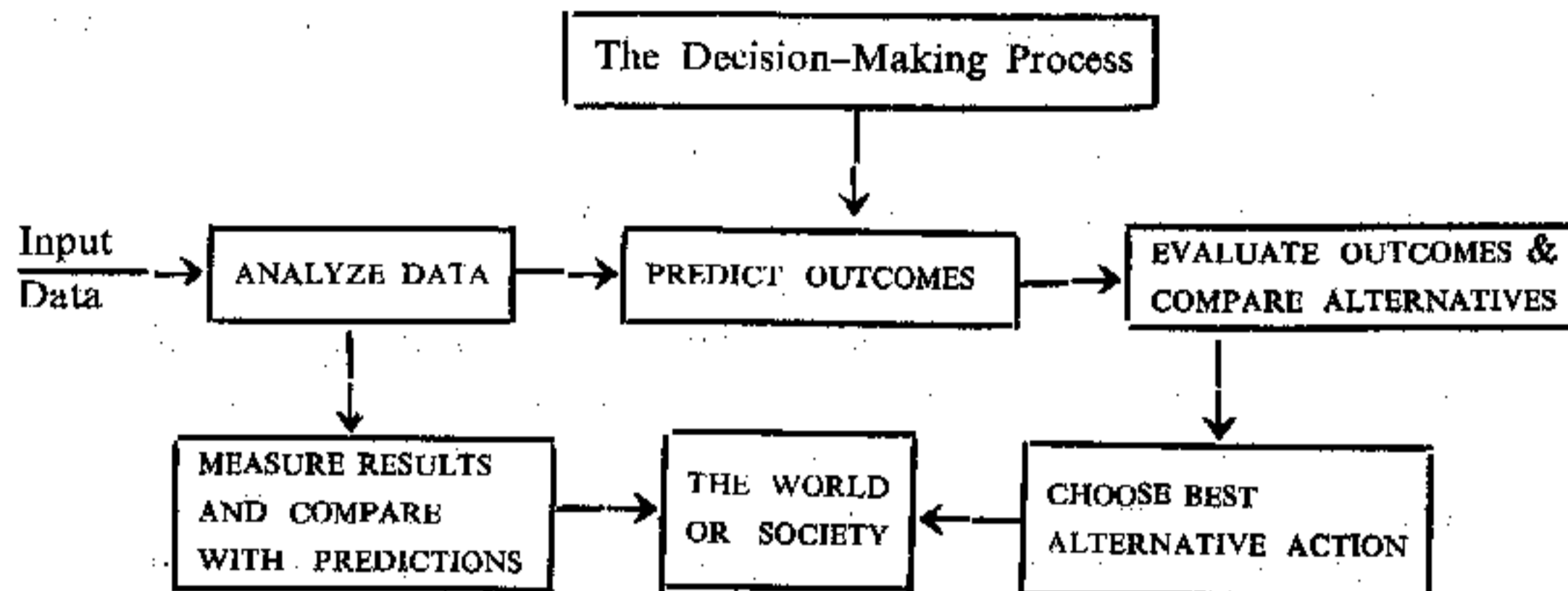
<sup>11</sup> E.S. Quade, "Systems Analysis Techniques for PPB," in F.J. Lyden and E.G. Miller, *op. cit.*, p. 298.

<sup>12</sup> *Ibid.*, pp. 299-300.

<sup>13</sup> David I. Cleland and William R. King, *Systems Analysis and Project Management* (New York: McGraw-Hill Book Co., 1968), pp. 41-42.

With the aid of systems analysis then the decision maker can focus his attention on clearly defined issues, utilizing his judgment to evaluate assumptions criticize the numbers and probabilities the analyst has employed, weigh the uncertainties with which facts and assumptions must be accepted, temper and modify analytical conclusions with experience factors, predict the future consequences of actions taken now, evaluate how and to what extent factors not considered by the analyst should affect the decision.

Figure 1



#### The Limitations of Systems Analysis

Charles J. Hitch said that "Our analytical techniques can not answer every question,"<sup>14</sup> and one of the great virtues of the systems analysis approaches has to do with the question of avoidance, most, if not all, alternative problem-solving approaches "assume away" or ignore the difficulties with which systems analysis explicitly grapples, however unsuccessfully. It is a matter of reasoned faith to the scientist that it is better to have considered an insurmountable problem than to have completely neglected it. This is exactly what systems analysis does - grapples with the imponderables - rather than providing answers with either are not really answers at all or are answers to the wrong questions. If, by using a systems analysis approach, the decision maker is led to ask the right questions about the salient features of the problem, he has gotten the greatest benefit from analysis even though it has provided him with no quick answers. If at the same time he has obtained some insight into the determination of the strategy which is best in the real world, he is doubly blessed.

Of course, everything is imperfect, and systems analysis has some defects. There are, as mentioned earlier, both pro and con sides about the effectiveness of systems analysis. The pro side tries to convince the others to realize its usefulness, while the con side is raising the defects up. Robert Chin defined the limitations concerning with the models and disutility that:

...Models are abstractions from the concreteness of events. Because of the high degree of selectivity of observations and focus, the "fit" between the model

<sup>14</sup> Charles J. Hitch, quoted by David I. Cleland and William R. King, in *Systems Analysis and Project Management*, op. cit., p. 80.

and the actual thought and diagnostic processes of the change-agent is not close. Furthermore, the thought and diagnostic processes of the change-agent are not fixed and rigid. And even worse, the "fit" between the diagnostic processes of the change agent and the changing processes of the "actual" case, is not close. Abstract as the nature of the model....<sup>15</sup>

E.S. Quade expressed its defects and limitations in his two articles that: (1) the difficulty in finding out what the problem is;<sup>16</sup> (2) analysis is necessarily incomplete, i.e., limitations of time and money; (3) measures of effectiveness are inevitably approximate; and (4) ways to predict the future are lacking.<sup>17</sup>

What is wrong with systems analysis? What are its particular limitations and biases? Alain C. Enthoven asked these questions and he gave his own views that:

... (1) emphasis on quantitative analysis risks ignoring those factors that can not be reduced to numbers, or at least overemphasizing those that can ....(2) another criticism sometimes made is that application of the "flat of the curve" argument to force or performance requirements may lead people to ignore the decisiveness of a narrow edge in superior performance. There is a danger here if an unwary analyst confuses performance and effectiveness ....(3) the systems analysis approach may be biased against the new and in favour of the old.... sometimes concerned that our analyses may be subject to such bias....the method of open explicit analysis is much less likely to be so biased than is reliance on judgment or intuition or experience unsupported by analysis....<sup>18</sup>

#### **Systems Analysis and the Setting up the School of Deputy District Officer**

As we know a systems analysis is an analytical study designed to help a decision maker identify a preferred choice among possible alternatives. It is characterized by a systematic and rational approach with assumptions made explicit objectives and criteria clearly defined and alternative courses of action compared in the light of their possible consequences.

In spite of these are many limitations the decisionmakers who have made use of systems analysis find it extremely useful. Systems analysis can offer the policy-maker at most it can help him understand the relevant alternatives and the key interaction by providing an estimate of the costs, risks, and:

<sup>15</sup> Robert Chin, "The Utility of System Models and Developmental Models for Practitioners," in Peter P. Schoderbek, *Management Systems* (New York: John Wiley & Sons, Inc., 1967), p. 25.

<sup>16</sup> E.S. Quade, *Analysis for Military Decisions* (Chicago: Rand McNally, 1964), p. 7.

<sup>17</sup> E.S. Quade, "Systems Analysis Techniques for PPB," in F.J. Lyden and E.G. Miller, *op. cit.*, pp. 304-306.

<sup>18</sup> Alain C. Enthoven, "The Systems Analysis Approach," in Harley H. Hinrichs and Graeme M. Taylor, *op.cit.*, pp.162-163.

...it may lead him to consider new and better alternatives. it may sharpen the decision maker's intuition and will certainly broaden his basis for judgment thus helping him make a better decision....<sup>19</sup>

This part the writer has mentioned the general points of systems analysis already. The next step he would like to illustrate the application of systems analysis.

### *Illustration*

In the previous part of this paper the writer has already reviewed the general concepts and methodology of systems analysis. In the next part he will try to apply the systems analysis to analyze a make-up program setting up the deputy district officer school. Making up the program will be shown first. Then the application of systems analysis will be applied.

#### **Making up the Program**

The Ministry of Interior in Thailand plans to set up "The Deputy District Officer School" and he needs the necessary information. In doing so, the writer is a subordinate acting as an analyst and will analyze this program in order to study by the way of systems analysis. The writer believes that "A good systems analyst should be able to give a clear nontechnical explanation of his methods and results to the responsible decision makers."<sup>20</sup>

In doing so the Ministry of Interior should get several alternatives for comparison and, of course it is easier to make choice which one is the best way.

#### *Statement of the Program*

1. The deputy district officers are the Thai government official working in the district areas there are about four up to five people in each district. The number of the districts in Thailand is about 539 districts. They have to contact with the local people by their duties such as: people's representative election of members of the township council the supervision and control of both local and private schools, the promotion and maintenance of the educational activities in the districts, supervision of markets, prevention and suppression nuisances, controlling sale of food, public housing, farming aid, commercial affairs, registration of the people, registration of family, registration of name and surname, registration of beasts of burden, rent control, and so on.<sup>21</sup>
2. The deputy district officers are the salaried governmental officials, most of them are educated and represent the national government. They sometimes consider themselves very important and can not get along with local people.
3. The writer had closely observed the relationship between the deputy district officers and the local people is more impersonal, and a paternal while he had been working in the

<sup>19</sup> E.S. Quade, "Systems Analysis Techniques for PPB," in F.J. Lyden and E.G. Miller, *op. cit.*, p. 304.

<sup>20</sup> Alain C. Enthoven, "The Systems Analysis Approach," in Harley H. Hinrichs and Graeme M. Taylor, *op. cit.*, p. 160.

<sup>21</sup> Sakda Labcharern, *Administrative Responsibility of Nai Amphur (District Officer)* (Bangkok: Thammasat University, 1960), pp. 25-28



Phang-Nga Province at the Southern part of Thailand as a deputy district officer. The people address him by referring to his rank or title if any, however, the deputy district officer does not have any title formally granted by the King. They address him by prefixing the word "Tahn," which is equivalent to "mister" to his office i.e., "Tahn Palad" "Mr. Deputy District Officer." The word "Tahn" is also used to show respect and it is used in common practice among officials on all levels. The rank seniority and position are always a part of the man who holds them. A further explanation of why government officials and the Thai people in general can not distinguish a position from the man who holds it may be explained here. This, too, is very much a part of traditional behavior.

The Sakdinah system, which characterized the individual status of the Thai people by the right of holding land according to rank and position was the most influential reason for this attitude. For centuries, this right of the Thai people, especially for the local people who live on the land all of their lives, was a lesser one than that of government officials. Whenever the local people saw government officials, they found him in a certain rank granted by the King and a certain position assigned by the central government. Thus he was recognized as a representative of the King, who, being always superior and good, made the official superior and good also.

4. The other officials working in the districts are district forest officers, district public health officers, district education officers, district land officers, district police offices and community development officers, etc.
5. The Ministry of Interior established the chief district officer school in 1963 for training the chief deputy district officers who had been selected for appointment as the chief district officers. Each training session is approximately nine months in length with an enrollment of between forty and fifty trainees. Intensive training of personnel for this position is considered especially important because these persons are the key linkage between the government and the local people.

#### *Problems*

1. The attitudes of the local people in the district areas tend to be against the central government because the deputy district officers have arbitrary attitudes.
2. Local people in the district areas always complain about the deputy district officers and they do not participate with them.

#### *Objectives*

1. To train the deputy district officers to have the proper attitudes in order to get along with the local people, it is considered equally important that trainees be stimulated to have better attitudes toward the responsibilities and working with the people.

2. To train the deputy district officers through the country both on duties and new recruitment to have proper attitudes in order to participate with the local people in the district areas.
3. To train the deputy district officers to increase the ability and technical knowledge in order to work and participate with the local people in the district areas.

#### *Program Elements*

1. To establish the deputy district officer school and train 2,000 trainees on duties.
2. To recruit and train new trainees about 100 annually.
3. To acquire materials, supplies, money, salaries, instructors and commodities according to program.

#### *Duration*

The program should be completed within five years.

*Budgeting:* \$ 20 million for running this program.

#### *Operation Plans*

1. To establish the deputy district officer school and train them.
2. The deputy district officer will be trained at the school for a period of six to nine months with group of forty to fifty trainees, using both those on duty and new deputy district officers before sending them to work in the district areas.

### **Systems Analysis Application**

#### *Formulation of the Problem and Defining Objectives*

Henry H. Albers said "Defining the problem frequently provides a part of answer. This idea holds for operations research as well as other types of scientific endeavor...."<sup>22</sup> The analyst has to examine the problems and objectives of the proposed program first, before defining objectives. The program states its objective that: (1) To train the deputy district officer to have the proper attitude in order to get along with local people in the district areas through the country of Thailand; (2) To train the deputy district officers to have better attitudes and behavior; (3) To train the deputy district officers to increase the ability and technical knowledge in order to work and participate with the people.

In analyzing this process several clusters of questions are relevant: (1) the percentage of the authoritarianism of the deputy district officers; (2) to what extent the deputy district officers

<sup>22</sup> Henry H. Albers, *Principles of Organization and Management* (New York: John Wiley & Sons, Inc., 1961), p. 295.

have arbitrary attitudes; (3) the number of the deputy district officers who can not get along with local people; (4) what proportion of this number originates from the old or originates new deputy district officers; (5) the background of the deputy district officers; (6) how friendly and easy to approach are they? (7) to what extent are they willing to listen to the people's problems; (8) what do the local people think about the deputy district officer; (9) the number of the people who complain to the deputy district officers and why; (10) what is the difference between the people who complain and not complain; (11) how to reduce the number or the percentage of the local people who complain and don't participate; (12) is the training program the only method in order to alleviate this problem or is there another method and, if so, what? and can they be combined together; (13) how can we determine that the local people do not participate with the deputy district officers; (14) what measure would be suitable in order to change attitude and behavior of deputy district officers?

Firstly, the systems analyst should decide what questions are relevant to his inquiry select certain quantifiable factors, cut down the list of factors to be deal with by aggregation and by eliminating the (hopefully) less important ones, and then give them quantitative relationships with one another within the system he was chosen for analysis.

The analyst will face these problem in defining the objectives to train the deputy district officers. As a matter of fact in the district areas there are many officials who are from the other ministries working in the district areas as the writer has mentioned before. These officials have to work and contact the local people in different ways.

Thus supposing the Ministry of Interior determines to set up the deputy district officer school and, if the results of this program are effective, or in other words the deputy district officers change some attitudes and get along with the local people in the district areas and therefore the people reduce their complaints, etc. But what if the other officials in districts do not change their arbitrary attitudes to the people? If the situation happens as the writer said, can we say that the ultimate goal of the Thai government in training government officials especially in the district level is successful or not and why? If this situation occurs, it seems to him that the answer is "exactly no."

These are the problems of what measures would be suitable. The analyst may think about whether it should set up the school and train the deputy district officers or not. This program was originated because of the period of the Thai government is extremely worried that the communists will create disturbances through greater degrees of agitation, subversion and guerrilla warfare as they have been doing in Laos and South Vietnam. And the Thai government has realized that the communication gap between the local people in the district, the smallest level of the central government and the officials could lead to serious problems, and has attempted to improve the situation by various means. The training of official especially the program to set up the deputy district officer school should be noted that it is not specifically designed toward filling the gap between the

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local people and the government officials; rather, it is aimed toward an improvement of quality and performance of government officials.

The Thai government also hopes that mass education may eventually improve the situation and create a more rational political culture in Thailand to replace the present "no participatory democracy." Education as a means toward multiple ends is highly desirable; but it is a long range program, the result of which can not be obtained early enough to solve this immediate problem of unsatisfactory relationships between the local people and officials.

Therefore, the problems of defining and selecting objectives dealing with the attitudes and behavior of the deputy district officers and the local people's attitudes and participation with officials are rather hard to define, because they are very abstract. However, the analyst should select the alternative and compare the outcomes, by cost-benefit, cost-effectiveness and outputs of each program in the next steps.

#### *Pointing out the Alternatives*

In this step the analyst should think and realize about alternative for solving the problems that are relevant to the selected objectives. The analyst has to realize that he should pretend not to believe without proving that: "Setting up the school and train the deputy district officer" to change attitude and behavior is not only one solution to this problem. Then, what are the other measures which the analyst should take a look at? In this case he might think about the following measures whether or not they are workable, suitable, rational ideas or not. But he should compare with the predictions and results of each alternative namely the police officers program for training; Land officers program for training; and community development officers for training program.

The good analyst should assume that these alternatives would work and solve the problems, and these alternatives seem to be relevant to the actual problems and objectives, but as a matter of fact he can not answer and measure at present how effective they are. He might have only general concepts and ideas of their effectiveness, however, he should go to the next step of the process in order to examine the better ways in solving the problems.

#### *Design the Information in Order to Make the Alternative*

In this step what kind of information should be collected and where they would be available, how to get the reliable information, what kind of research methodology, questionnaire, observation, interview, and so on. Does the analyst have to pretest the information in order to make sure? These questions the analyst has to realize and keep in mind in order to solve the problem. According to the writer's opinion the analyst should collect at least three kinds of information. These are: the attitude of the deputy district officers by themselves; the attitudes of the people to the deputy district officers; and the attitudes of the outsiders or other people who often contact with them.

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✓ The attitude of the deputy district officers in the district areas, the information should be concerned with the following matters: how often the deputy district officers contact with the local people in a month. What kind of job do the deputy district officer when in contact with the local people? Do the local people have to come over to the office of the deputy district officer when they have some business? How often do the deputy district officers go out into the areas and participate with the local people? These are the examples of the questions or information which the analyst should collect from the deputy district officers in order to know their activities or, in other words, how the deputy district officers work with the local people. The number of the local people who complain to the deputy district officers, and why? The percentage of the local people who do not participate with the government officials in the district areas; the number of the deputy district officers in each district; what is the rate between the number of the local people to the deputy district officer in each district?

✓ This information will help the analyst in designing and explaining his models. The analyst does not need to use all kinds of data, he ought to cut down the extent of the proper information. It depends on "reliable" and "available" information which he gets from his process of research methodology.

✓ This information is available and how to get it is the next problems to be solved. Collecting information can be accomplished by collecting from persons and nonpersons in the district areas. In this case, information from persons the analyst may think about the following people in the district areas such as: the head of the townships; the head of the villages; the general people in the districts; the school teachers in the district areas; monks or priests; the other officials in the district, township and village areas.

The information from nonpersons, in this case, the analyst should take a look at the government agencies and other organizations dealing with the domestic services both in central agencies and district levels. These agencies and organizations should be: the Department of the the Local Administration; Land Department; Police Department; Community Development Department; National Statistics Office; Provincial Office; and District Office.

✓ These agencies and organization would supply information needed. Collecting data the analyst can use the statistical methods such as: Which one should be used; it depends on what kind of data; how much degree and percents of correctness; and so on. Then the analyst should got to the next step of designing the models after he has had enough information.

### **Models and Explanations**

David I. Cleland and William R. King explained the models in the process of systems analysis that:

...the basic operating device used by systems analysts in a model. The layman's understanding of models is simultaneously helpful and injurious to one's

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understanding of the scientific use of term ...a model in the scientific sense, is a representation of a system which is used to predict the effect of changes in certain aspects of the system on the performance of the problems....<sup>23</sup>

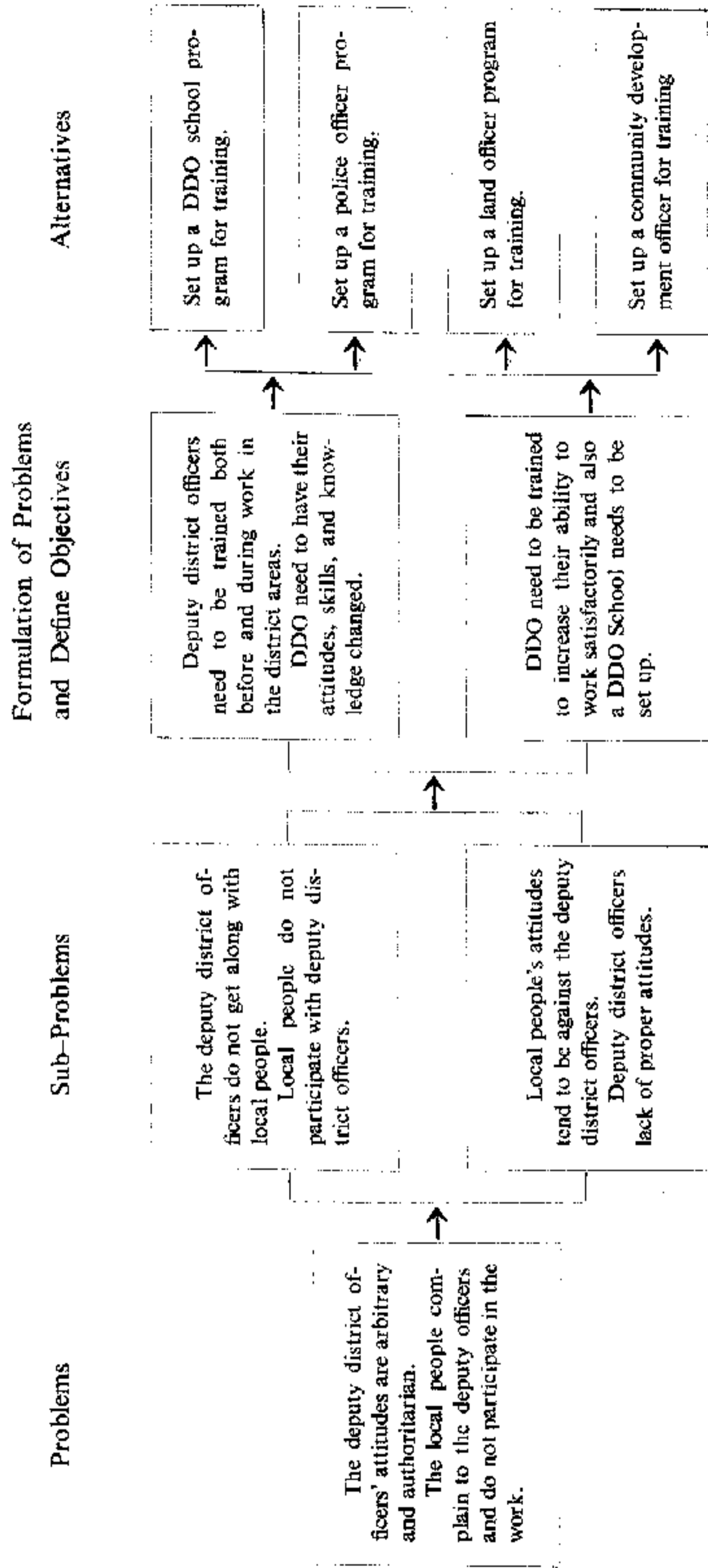
In doing so the next step in applying the systems analysis in setting up the deputy district officer school the analyst should design models of problems, subproblems, objectives, alternatives or solutions and their interrelations. The analyst will explain, in sum, the models of inputs; process; outputs; and some restraints of each model in order to compare the cost-benefit, effectiveness and how to make choice or, in other words, what is the best alternative to be found from the models?

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<sup>23</sup> David I. Cleland and William R. King, *Systems Analysis and Project Management*, op. cit., pp. 66-67.

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Figure 2



### Explanation

The main problem is that the deputy district officers' attitudes are arbitrary and authoritarian and that is the reason why the local people complain and do not participate in the public programs. The subproblem such as: the deputy district officers do not get along with local people; the local people's attitude tend to be against them; or the deputy district officers might be lack of the proper attitudes and behavior. These subproblems depend on the main problems generated.

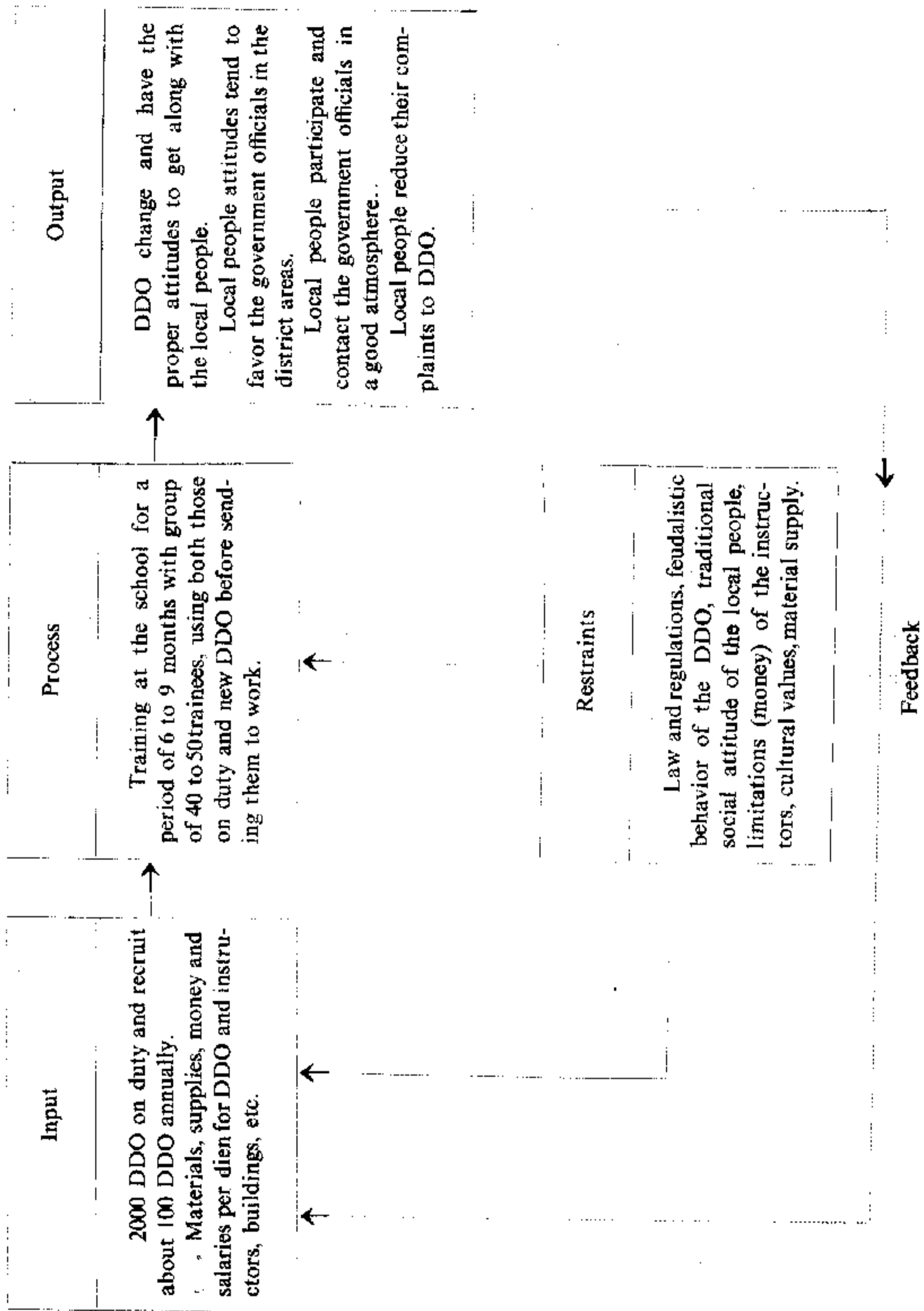
Thus, the formulation of problems or objectives should be: the deputy district officers need to be trained both before and during work in the district areas. The deputy district officers need to have their attitudes, skills, and knowledge changed; and the deputy district officers need to be trained to increase their ability to work with the local people in the district areas.

To train the deputy district officers to change and have the proper attitudes and behavior to the local people, is only one way, therefore the alternative should be: setting up a police officers program for training which would be effective and less costly or the land officers training and the community development officers. Which one of these would be less costly and which more effective? A police officers program for training seems to be good for improving the understanding between them and local people, because they have to be in contact with local people in so many cases, but it might be costly. The training of the community development officers seems to be better because these officials always work with local people in the fields. In the next models the analyst will illustrate the effectiveness and limitations of each alternative.

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Figure 3  
Model of Alternative I



### Explanations

If this program would be carried out, there would be 2,000 on duty and recruit about 100 deputy district officers annually, and full operation within five year by allocating budget, say, 20 million dollars. The analyst should consider time and cost of the program. This program needs a lot of money, such as: materials, supplies, salaries per diem for deputy district officers and instructors, building construction, equipment, dormitories for trainees to live in. In comparison the big amount of program cost with the national budget or other programs of the Ministry of Interior as a whole, would be doubtful whether the Ministry of Interior is able to afford such a burden it training at the school for a period of six to nine months with group of forty to fifty trainees.

The number of the deputy district officers in each district is about four people who are responsible for government and administration section; registration section; vocational development section and local development section, so the total number of the deputy district officers through the country is approximately 2,000 on duties.

In doing so, some restraints which the analyst should consider such as: law and regulations, feudalistic behavior of the deputy district officers, traditional social attitudes of them and local people such as: local people should follow and believe the officials, as a child has to do with his father, the limitations of the instructors, money, and so on. Social norms and powerful and prestigious positions of the officials place the Thai officials above the local people,<sup>24</sup> causing the officials to lead and the people to follow without questioning orders. This was the old forms, but it might be still the problems in training the deputy district officers to change the attitudes into the democratic way to get along with local people.

Thus there seems, however, to be some basic in Thai culture "The government is like our father, we (people) are like its children....<sup>25</sup> Such attitudes are no doubt characteristic values and beliefs which prevail throughout the Thai culture. It seems unnecessary to describe these beliefs here. They are well summarized political behavior in Wilson's book on 'Politics in Thailand' that:

...These generalized virtues manifest themselves in the social behavior of the Thai by their adherence to the belief that the proper manner of ordering specific social relations is by expression of respect. Symbols and gestures of respect from lower to higher stratus are the very stuff of the actual relationships between persons....<sup>26</sup>

Those the writer mentioned above are the restraints in training the deputy district officers, and the decision maker should realize and keep in mind that: examining these outputs it

<sup>24</sup> Somporn Sangchai, *Toward Responsive Local Government in Northeast Thailand* (USOM/Bangkok: Research and Evaluation Division, 1968), pp. 3-9. (Mimeograph)

<sup>25</sup> Fred W. Riggs, *Thailand: The Modernization of a Bureaucratic Polity* (Honolulu: East-West Center Press, 1966), p. 324.

<sup>26</sup> David A. Wilson, *Politics in Thailand* (New York, Ithaca: Cornell University Press, 1962), p. 79.

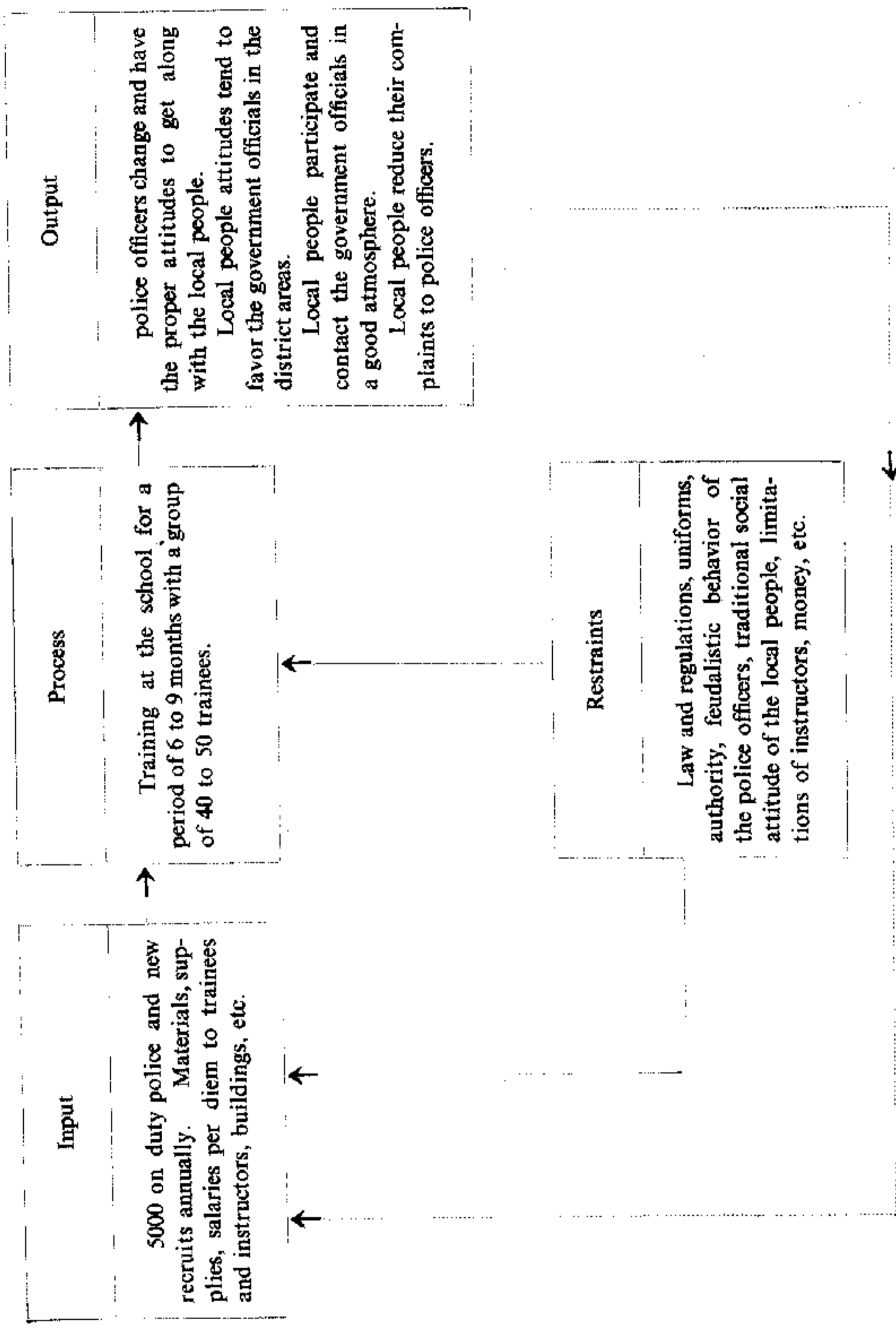
would be difficult to measure the attitudes of the deputy district officers how much they change, if they do. The degree of change gets to the point of getting along with people or not. These are the next problems to the analyst.

In another way, the Thai government had established the school for training the chief district officers since 1963. In the writer's point of view he would like to suggest that the Ministry of Interior should not establish the school for training the deputy district officers.(Building) But they should use the present school of chief district officer and train both the deputy district officers and the chief district officers.

In doing so, we can train more people than when we train only the chief district officers. The chief district officers are the leaders of the district. They occasionally are in contact with the general people. And finally what measures can be taken to increase the general efficiency of training systems attitude? What types of training are needed for the deputy district officers? Are its objectives relevant to the confronted problems? Is this program only one tool probable in solving the problem? Can this program really work out the problem in order to shape up the new attitudes of the officials? How can we measure the program impacts and outputs? What is the impact problem of this program? What is the relationship between the outputs and the impacts of the program? What is the course which is suitable for the program in training? What is the different percentage before and after we have his program? And finally, is this program cheaper than the other ones? These above questions are key ones which the analyst should find out the answer if the decision-maker decided to choose this choice.

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Figure 4  
Model of Alternative 2



**Explanations**

The assumption of this program would be as follows: training police officers in the district areas 5,000 on duty, and new recruits annually. This program the analyst should consider these inputs: materials, supplies, salaries per diem for trainees and instructors, equipment, money and other resources for the process of training program.

Among the various branches of public service especially in the public sector which is closely related to the people as such the districts in Thailand, personal character of police work makes the accomplishment of its purpose dependent on the spirit and the quality of its personnel, on their relationship with the local people. This is true that of any nation, any level forms or keystone in the structure of government.

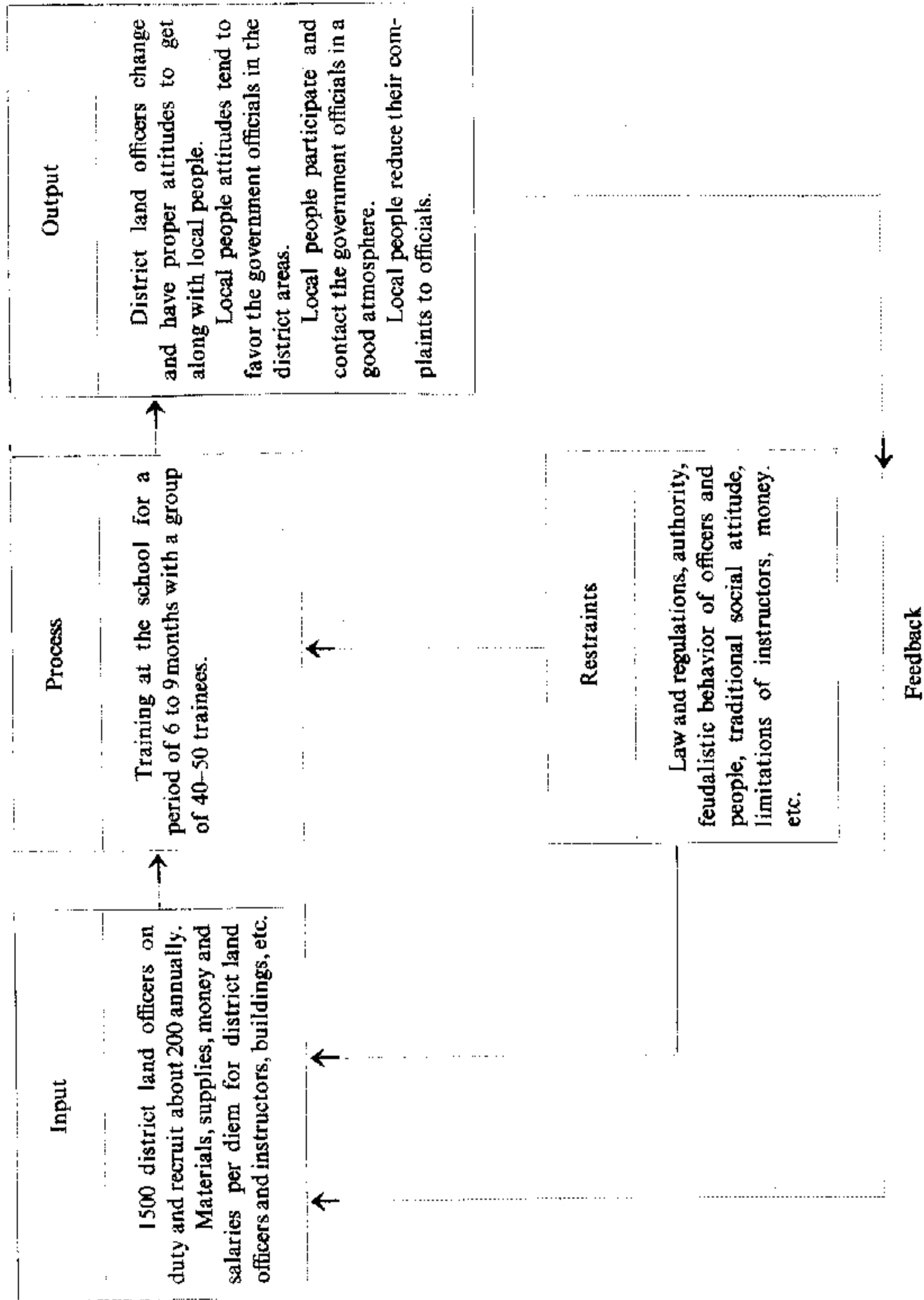
The analyst believes that improvement in police personnel may be effected by means of systematic method in training and sound solutions to the problems of the program. Many functions of the district police officers such as: protection of life and property against criminal attack; preservation of the peace; juvenile procedure; transportation of prisoners and insane persons; crowd controlling; civil disturbance and riot control.

In these functions and responsibilities of the district police officers they have contact with the local people.

In doing so the analyst is faced with some rules and etiquette such as law and regulation; uniforms; discipline; authority; feudalistic behavior of the police; traditional social attitude; limitations of instructor's money; dishonesty; bribery; partiality and discrimination through prejudice.

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Figure 5  
Model of Alternative 3



**Explanations**

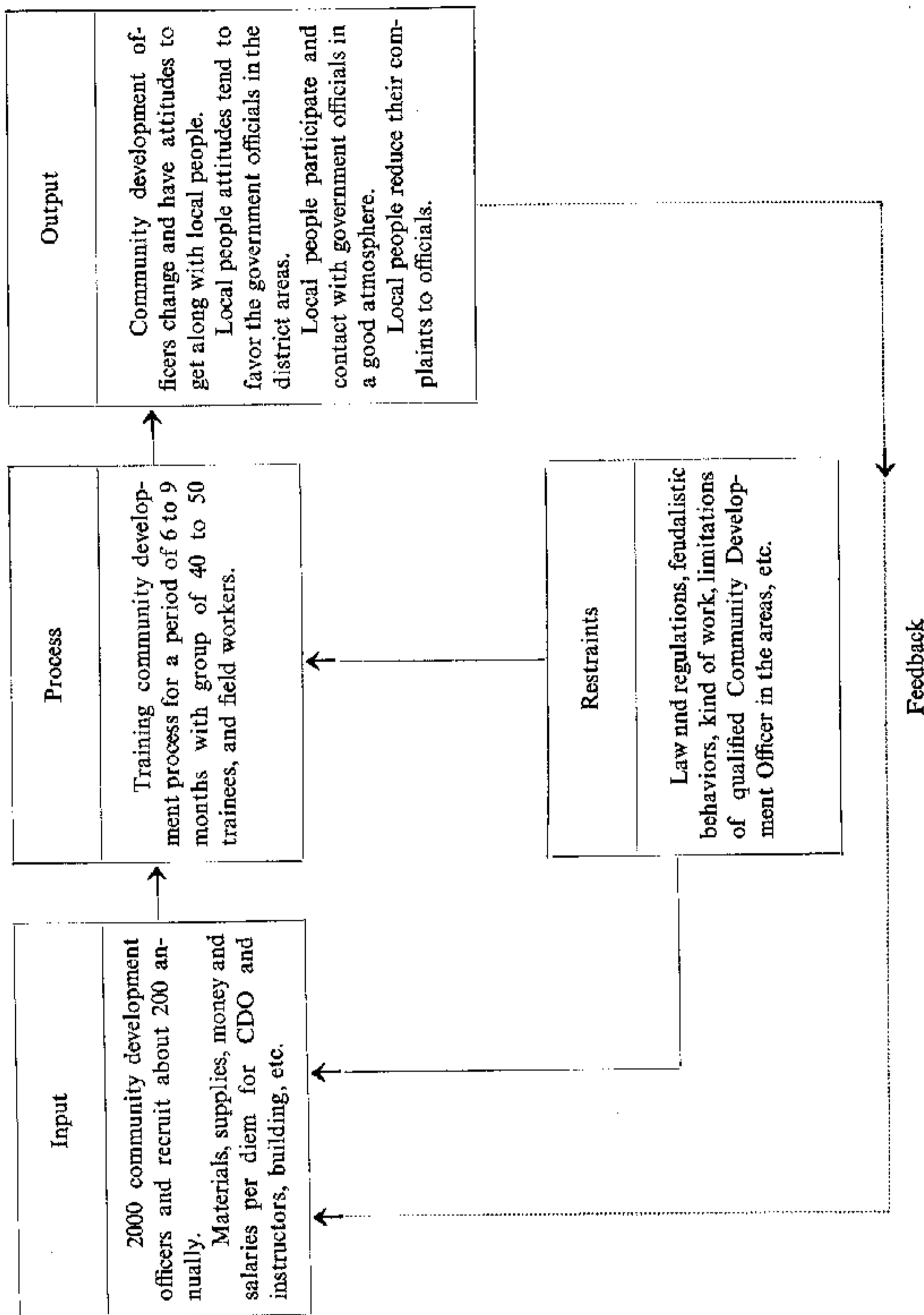
This alternative is supposed to solve the problems and be relevant to the selected objectives. The assumption of this program would be as follows: training 1,500 district land officers on duties and recruit about 200 annually including materials, supplies, salaries per diem for trainees and instructors, equipment, money and other resources are needed for this program.

The land officers' function and responsibilities are: investigation of those lands provided to the local people; making an effort to prevent disputes from arising among the members of the public using the lands. In order to provide the local people to have their own land for agriculture, the land officers are empowered to permit any person who possesses no price of land to enter, occupy, or possess the public land. In this case, when the qualified person applies to occupy public land, the land officer must consider the application first. If he approves he must grant permission to the applicant. After such land is given to the said person and he has developed the land, he is further directed by section 30 of the land code of 1954 to issue first the pre-emption certificate to that person in the district areas.

These are the basic functions of the land officers in district office which they have to contact with the local people. If we take a look at outputs of this program, it would doubt very much about its effect to the objective of changing the attitudes of the land officers in the district areas because they contact with the specific people who would like to have own land or the people who have business about the lands. This alternative would be controlled by strong restraints such as: law and regulations; authority; feudalistic behavior of land officers; traditional social attitude; limitations of instructors and money.

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**Figure 6**  
Model of Alternative 4





### Explanations

This alternative is based upon the assumption that improving countries undertake community development programs when they want to bring about social, economic, and political change in a certain way. In other words, they wish to guide change so that it not only produces material results, but also certain social and political results. Motions choosing to use community development methods wish to guide change so that: It involves the people; the people have a stake or a direct interest in the change and its results.

The community development in Thailand has hypothesized as follows: It starts with the people in a somewhat different way than we ordinarily understand that phrase. We know many things about people. We could, for instance, sit together and from our own knowledge very quickly draw up a list of the important needs of the local people in almost any rural areas, including those of Thailand. We know that people need more income, more education, better sanitation, better medical care, better agriculture, better irrigation and so on.

Community development requires that we understand the difference between "working with," instead of "working for," the people.

This program the analyst should consider to improve the standard of living of local people would effective in the long run rather than the other alternatives. The community development officers are supposed to be persons who play an important role of societies themselves. The effectiveness of this alternative would be hardly discernible and measurable, because people, attitude is very abstract.

### THE IMPACT MEASURING OF THE ALTERNATIVES

✓ In applying systems analysis the analyst must keep in mind that there are more than one alternative. To solve the problem he has to think about many alternatives. If he finds them he should adjust the models again for completeness as much as possible. The alternatives that the writer has mentioned above are only examples of applications of systems analysis. This would depend more or less on the problem perse, and it is really possible. The writer's job in the next step is the impact measuring of the alternative.

✓ It is necessary that the decision makers choose the best of the available alternatives. What do we mean by "best"? What is the best alternative to be found? Is that alternative which we consider best agreeable to our superior? The analyst should take into consideration these problems in measuring the impacts of the alternatives. However, the conclusion itself may not be the most useful thing to the decision maker. Most high-level decision makers are very busy men, so that they do not have time to study a particular problem, think about the relevant alternatives, trace out the key interactions among the variable problems, and the like. This, the analyst, if he is competent, can and should do. It is precisely this sort of contribution that is most useful to the decision

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maker. Laurence E. Lynn expressed his view that "the analyst and the manager at the national policy level is to develop better ways of thinking about problems and assigning better alternatives."<sup>27</sup> A good systems analyst will perform sensitivity test on his assumptions in order to identify which ones really affect the outcome. This will enable him to isolate for further research and evaluation those assumptions that prove to be most important, and to bring them to the attention of the responsible decision maker. In this paper the writer will not proceed to the next step of systems analysis process of measuring the impacts of the alternatives because the assumptions for measuring such alternatives has not been set up, and it is not the aim of this study. If he has sufficient time the analyst will collect the information concerned and study how to measure the impacts of each alternative; also which one has more impacts. This paper is only trying to apply systems analysis and three alternatives that the writer mentioned are just only examples there would have more than that, and it is really possible.

### *Conclusions*

A systems analysis is an analytic study designed to help a decision maker identify a preferred choice among possible alternatives. In this paper the writer has only discussed and pointed out many alternatives in order to compare with the program in setting up the Deputy District Officer school before the Ministry of Interior should set up the program or not. He should take a look at the other alternatives such as: the police officer; land officer, the community development officer; and so on. It is necessary, by the way of systems analysis, to compare the gains, risks, cost-benefits, cost-effectiveness, the outputs, the impacts, etc. that which one is better, and why?

"A decision-making process involves at least two alternatives and sometimes many thousands. The gains, risks, costs, and effects of each alternative must be estimated so that a comparison can be made of the relative advantages and disadvantages of each,"<sup>28</sup> questions are quite properly raised: Can this program be combined with other possible programs, if so, which one ought to include first? In other words, the analyst has the option of comparing systems that differ considerably in scope - what level of optimization - what scope of problems should be chosen? Which one will be more profitable?

However, Roland N. McKean recommended that the appropriate alternatives should be realized:

...(1) decide on the scope of the systems to be compared in conjunction with the selection of the criterion. Consciously weigh the apparent disadvantages and advantages of expanding the context; (2) give careful attention to the devising of criteria will not the alternative courses of action to be compared. Sound models

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<sup>27</sup> Laurence E. Lynn, Jr., "Systems Analysis - Challenge to Military Management," In David I. Cleland and William R. King, *Systems, Organizations, Analysis, Management*, *op.cit.*, p. 225.

<sup>28</sup> Burton V. Dean, "Application of Operations Research to Managerial Decision Making," in *Administrative Science Quarterly*, Vol. 3. (June 1958-March 1959), p. 413,

and result in picking out good policies if only poor ones are considered. In this connection, different sizes of each project and different mixes of policies or project features should not be overlooked; (3) watch out for possible effects of adopting one policy upon the costs or gains from other policies, especially if they are to be ranked.....<sup>29</sup>

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<sup>29</sup> Roland N. McKean, *Efficiency in Government through Systems Analysis* (New York: John Wiley & Sons, Inc., 1968), p. 97.

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