

# **SOME EXPERIENCES IN IMPLEMENTING A RAINFED FARMING SYSTEMS PROJECT IN THAILAND**

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## **Rationale**

This paper presents some of the experiences in implementing a rainfed project in Thailand.

It emphasizes the realities of project implementation and some recommendations to solve the problems.

The strategy of approach from station trials on component technology, to on-farm trials and finally to production programme is discussed.

The technological basis of farming systems development with inputs from agro-ecological and socio-economic points of view is also given importance.

## **INTRODUCTION**

It is not easy to write a paper about a project participated in by several national and international agencies without being inhibited by fear of writing something that will antagonize any of the participants. Likewise, to balance recognition among the people and agencies where credit is due is perhaps one of the greatest challenge confronting many project leaders. Not a few failed in this regard.

In this paper, therefore, we will attempt to discuss our experiences in implementing the rainfed farming systems project where no less than half a dozen agencies are participating.

We will emphasize more on the development of objectives, the role of national and international experts, the dilemma of participating staff and our approach to fit the implementation into the national system. Hopefully, this paper will shed light rather than confuse the ultimate goal of interdisciplinary and interagency teamwork in attaining the objectives of the project.

## **THE PROJECT**

The Project aims to improve the agricultural production and income of the rainfed farmers.

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Note : The opinion and ideas expressed herein does not necessarily reflect that of the FAO nor the UNDP.

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## THE AGENCIES

### 1. National Agencies:

Farming Systems Research Institute of the Department of Agriculture is the main implementing agency. In addition, Field Crops and Rice Research Institutes are directly participating through their network of research stations in the field. The divisions of Agricultural Engineering, Soil Science, and Botany and Weed Science contributed staff and resources to the project while the Planning Division helps in the publication of results and in the statistics through an ad hoc committee created for the purpose.

The Departments of Livestock Development and Agricultural Extension are also involved through their manpower and resources both in Bangkok and in the field.

### 2. International Agencies:

The United Nations Development Programme is providing grant funds through the Food and Agriculture Organization of the United Nations in what is termed as an Executing Agency.

## PROJECT FORMULATION AND APPROVAL

When the project was conceived of some few years back by some agricultural administrators in Thailand, triggered by Dr. Bhakdi Lussanandana, then working at FAO, Bangkok, it was based on two key points: (1) "Rainfed farmers" and (2) "Agro-ecological zones".

These two areas of concern have already their imprints in the international market for funding and so the project was easily approved when forwarded to FAO, Rome and UNDP, Washington.

The project must have to pass through the National Priorities of the Government. Therefore, one has to redefine the key points such that "Rainfed farmers" will mean poorest of the poor in Thailand and "Agro-ecological zone" is a promise to solve the many failures in the past due to drought and flood. These thrusts conform with the Government's Five-Year Plan and therefore approved.

## MANNING THE PROJECT

Who is the best man to implement a project of this kind? As of this date, it is still anybody's guess. The rainfed concept is new, much more of the agro-ecological zone.

In the eyes of veteran researchers rainfed is a gamble in the sense that this year you may succeed and next year, not. And who would like to gamble his reputation as an international researcher? Either he is a fool or he is fooling himself.

To some soil scientists, agro-ecological zoning is a mediocre way of doing soil taxonomy. It is not good enough. Then What?

But the project was approved and we have to implement it.

What seems to have happened was to close the eyes on the individuals professional qualifications provided they are agriculturist and try them as guinea pigs.

The present staff are still struggling to prove their worth in order to survive the acid tests.

### OBJECTIVES AND MORE

The objectives of the project have undergone a series of transformation from 1980 to the present. The project started with objectives in cropping systems to integrated crop-livestock farming and finally, the present one is an agricultural systems approach. Apparently, it has shown an amoeba-like elasticity to yield to the pressure of times. And it survived both the national and international pressures.

Everybody says its O.K. now. It is the same as what they are talking about—good or bad. We are now called "Farming Systems". It is a big word with many hidden implications, in which your guess is as good is mine.

A die-hard crop scientist will say this is a mess or perhaps, what a mockery they have done to the project. In point of fact, what he is saying is, this is degrading to my profession. One may ask, what about the small farmers?

If a researcher will only close his eyes and swallow his pride, he can think positively by taking advantage of the advancement in the science of agriculture and use them as they come, to hit the target—the small farmers.

Problem is, some are not prone to change especially when it comes to their past glory. It is similar to saying that "I am too old to learn". "I have learned enough during my younger days". And it's really difficult.

Question, how can you expect the less educated farmers to learn your new technology? Or are you asking too much?

### THE NATIONAL AND INTERNATIONAL EXPERTS

What is the difference between the two experts when it comes to solving the problems of small farmers in ones own country? The answer is relative based on the time availability of the best guy and the urgency to spend the project's money for that purpose. Otherwise, the money will be reverted and next year's appropriation will be decreased.

To the surprise of everybody in the project the international expert suddenly appeared at the office wondering why he was not picked-up at the airport. He subsided after a lengthy explanation and agreed that somebody in the Middle East has to be blamed.

On the discussion table, the international expert angrily retorted, "Why did you hire me in the first place, if you are not going to give me money and do as I wish? "You don't need an expert of my calibre if you will ask me to do this mediocre job".

You are almost at beserk to send him back except that at the back of your mind what will those people at the headquarters say, you cannot work with people of different cultures. And so it ended up with lip-biting and tooth-grinding.

He saw your original terms of reference (TOR) and it is not really the same as what was approved.

And the expert started to work. He needs this and he needs that. This must be translated otherwise how can he compute this and compute that.

For a one month to three months consultancy he can be as helpless as a lamb or as aggressive a bull, bullying himself to get the materials he needs.

Many are aware by now that his accomplishments will be as good as the quantity and quality of data you feed him. Put it in another way, the quantity and quality of data he will get is largely dependent on how he presents himself to the project staff and local agencies who may be sympathetic or outright indifferent.

If the consultant cannot get what he expects to get within the time and resources available, this can be a big headache to the funding agencies. His recommendation will be a huge amount and even bigger than the project budget. Reading between lines the recommendation is tantamount to hiring him back in order to pursue his own profession. Again, what happens to small farmers?

And the National Expert? While doing most of the legwork, he keeps wondering why the big salary difference between him and the International Expert. But on the second thought, his salary is much higher than the government salary so he brushed-off the thought and console himself by saying, he will have his chance in the future.

Begun the hide and seek. It is almost always the case that the best man in town for the National Consultant is also the busiest man around.

While the "boss" allows him to do consultancy because his salary is not commensurate to his ability and accomplishments, he knows pretty well he needs the man during the period of consultancy. So apology is flying left and right but proud to say that it is still the better arrangement.

These up-coming young professionals will refuse to tarnish their reputation up to the point of quarreling with the family. The tyranny of profession.

## BACK TO PARTICIPATING AGENCIES

### 1. Planning:

While it is very nice indeed to plan together before the work is started there is drawback to the game.

The head of a participating agency is always on guard to improved his agency's funding in which in a developing country, is not really that much. The first impulse is to get a fair share of the pie.

Tossing back and forth may end up with equal share of the funds, equal share of responsibility, and equal share of accountability or no accountability at all.

The resulting output can hardly make a story about the project, more so of its objectives.

The other side of this planning is to present to participating agencies the master plan with corresponding budget according to specified activities. Fine enough except that in return you get the skin and bones but no meat in it.

Perhaps the better approach is first to know the agencies function and activities and see if the project objectives can fit in to the picture. This is long and tedious way of hitting two birds with one stone. It may pay in the long run.

## 2. Implementation:

In practice the lead agency bears the big burden of implementing the project even if the budget is equally shared among participating agencies.

When there is a need to do work for the project and the timing runs counter to the regular job of the participating individual, which do you suppose will get the priority? It is not difficult to think that the regular job will. That is the basis for his promotion and he is not about to sacrifice his promotion for the sake of a special job which will terminate soon, anyway. Besides, What is his incentive for doing the special assignment for the project?

The **GLARING LESSON** is, the special job should reinforce, add and complement the regular job of each participant. This should be done on a case to case basis. It is time consuming and the number one enemy of the project is time.

## 3. Project administration:

The project is being administered by no less than a dozen different people and they are all experts in their own fields. This ranges from the care of vehicles, to accounting to filling up the right forms and finally technical reporting where you feel most at home to do.

One may have the feeling that the project is an exercise in public administration rather than a research or a development project.

As yet, there is no way out. It must simply be done. We are spending the money of the peoples of the world and it carries with it a lot of accountability. Computer can help but only up to a certain extent.

## AND NOW THE GOOD NEWS

The technology of direct seeding rice instead of transplanting at Amphoe Dok Kamtai in Phayao, expanded to about 1000 rai this year (1984). This is within the span of three years starting from a mere 10 rai in 1982.

One may begin to wonder how that happened. In brief here is its anatomy. First, We have a good leader in the field. We really mean a leader. He moves around in the community greeting everybody in sight.

When necessary he goes to the farmer cooperators at night to check if they have prepared the seeds for planting the next day since it rained the previous day.

He uses his own money to call Bangkok when there is a problem of seed or pest infestation in the area.

Will the farmer not believe him that he really mean business ?

Our man is highly motivated and very receptive to new ideas.

Second, the mechanical seeder developed by the Agricultural Engineering Division for the Project help a lot.

The number one enemy of rainfed rice is weeds. Using the seeder saved labour in planting and since the seeds are planted in rows weeding is easier and it saves labour too.

Third, the extension workers are all out to help us whenever we go there. They replicate our trials even before we say go ahead.

Fourth, the Provincial Governor of Phayao is all out to help us.

Fifth, the Chief of Station at Phan has been very cooperative in every aspect of the work we do there.

Sixth, the technology of direct seeding rice is ago-climatically and physiologically suited in the area.

Seventh, the farmers are actually looking for an alternate technology of planting rice because of the many failures in the past.

Is it difficult to think that with the above circumstances, the project will certainly expand in the area ?

A good question is, can we create these circumstances ?

#### THE STRATEGY FOR EXPANSION HAS A BASIS

The expansion of the technology at Dok Kamtai did not happen by accident. There is a basis for that. And our man there seems to have absorbed it.

In the Farming Systems Research Institute there is a certain guidelines as shown in Fig. 1. In this diagram we do appreciate the role of a project direction, coordination, activity, location and participants.

We wish to emphasize at this point that in a project concerning the farmers, when the research and extension workers must have done their parts, the private enterprises (support services in the diagram) takes over. When that happens we can truly say we have transferred the technology. Beyond that is anybody's ball game. It is the law of economics which will prevail. However, the Government should be on the alert that there is a fair play in trading because the less educated small farmers can easily be on the losing end compared to their counterparts in the trading sector.

#### TECHNICAL SOUNDNESS MUST TAKE PRECEDENCE

There is no substitute for a good technology. A good technology in farming systems may be defined as one which is compatible with the climatic, agro-ecological and socio-economic environments of small farmers.

The technology must also have a basis. Note for instance in Fig 2, that when you go from a very dry area near the desert to a very wet area of a water-logged soils there are a number of possibilities which can be done but there are also constraints that will not allow us to do so.

A screening technique for a good technology is illustrated in Fig 3. Here, there are seven tests which may be answered to give one a basis for deciding if a developed a technology has a chance to succeed in the farm.

If most, if not all of these questions are answered favorably chances are it may succeed.

### THIS BUSINESS OF SOCIO-ECONOMICS

Let us get down to the root of it. We are agronomist or animal scientists and nobody will believe us when we do FARMING SYSTEMS without economics.

We hire, invite and/or cooperate with economists to join us in the farm. In due time they realized it is not a "big deal" and that we are very poor in mathematics and in handling money matters.

They start to jump at our neck and tried to rule the game. We kicked them out and thats the end of it.

Alone we went back to the field and do our own socio-economic survey. How does our survey look-like compared with theirs? We still don't have the answer.

After spending a lot of money and manpower we cannot use our own survey. We set it aside and we are back to our original "yield" reporting which is like before, purely agronomy.

### A LITTLE ABOUT SOCIO-ECONOMIC SURVEY

We might have been aware by now that each profession has its own survey for as long as they deal with population. Following are some of the surveys, now interplaying in the field :

1. Meteorology
  - a. Rainfall
  - b. Temperature
  - c. Cloudiness
  - d. Relative humidity
  - e. Evapotranspiration
  - f. Wind
  - g. Solar radiation
  - h. Natural calamity
    - Flood
    - Drought
  - i. Soil temperature
2. Soil
  - a. Reconnaissance
  - b. Detailed
  - c. Taxonomic
  - d. Topographic
  - e. Aerial
  - f. Landsat (Satellite)
3. Agronomic
  - a. Crops and cropping pattern
  - b. Varietal
  - c. Cultivation
  - d. Fertilizer and fertilization
  - e. Pests
    - Weeds
    - Insects
    - Diseases
    - Small animals

- f. Farm Power
  - g. Post-harvest and handling
  - h. Processing and storage
4. Animal Husbandry
- a. Kinds of animal and type of raising
  - b. Breeds and breeding
  - c. Feeds and feeding
  - d. Health and sanitation
  - e. Pest and pest control
  - f. Animal product utilization
  - g. Processing and utilization
  - h. Marketing
5. Socio-Economics :
- a. Farm Resources
    - . Family
      - Number                               - Health
      - Education                             - Nutrition
      - Age level                             - Eating habits
      - Mobility
      - Work force
    - Landholdings
      - Area and number of parcels
      - Tenure
      - Distance from the main road
      - Distance from the market
      - Distance from the house
      - Value
    - .Crops
      - Kind and variety
      - Area planted
      - Consume or sell
      - Value
    - .Animals
      - Kind and number
      - Breeds and sex
      - Management practices
      - Purpose of keeping
      - Health condition and vigor
      - Ownership
      - Value
    - .Machines
      - Kind and number
      - Ownership and uses
      - value



- b. Labour and Other Power
  - .Crop Labour
  - .Animal Labour
  - .Special Labour
- c. Material Input
  - .Input for Crops
  - .Input for Animals
  - .Special Other Inputs
- d. Material Output
  - .Output from Crops
  - .Output from Animals
  - .Special Other Output
- e. Income and Expenses

What is the message put across by these surveys? An outright no. We cannot afford to do it. We have no time, money and manpower. Besides, the farmer has not much time for us either.

This brings us down to selecting the important items which will suit our purpose or our objective. Unfortunately, we put INCOME OF FARMERS as one of our objectives, when we actually mean income from crops alone or income from animals alone.

We are certainly aware that the income of farmers does not come from crops alone or from animals alone. Therefore, we fall into the trap of doing it the economists way. However, let us not blindly follow the package of prescriptions without clarification. After all we have to agree or do the interpretation of results. It is still our business to do that.

It may be worth asking if there is a way of simplifying the survey according to our budget time and manpower. Some economist are now willing to talk terms with the agromomist or animal scientists. Let us pursue then that right direction. It is not easy to marry two profession.

#### WHAT ABOUT THE SYSTEMS APPROACH

Having had/the difficulty in using economics in the farm survey, the topic of farming systems or systems approach appears more complicated.

We want to interpret it as a simplification rether than a complication.

In a nutshell, following is our approach: Before we introduce our new technology, we want to know first what they have been doing their cropping or livestock raising before. After introducing the cropping or livestock raising we examine what happen to their other activities like non-farm work. Specifically, we look at the total farm productivity, labour and income. For a start, we will get only the major activities otherwise we may get confused. We will expand as we go along.

We know it take us time and hard work but we feel we are on the right direction.

### FINALLY TO GIVE WHERE CREDIT IS DUE

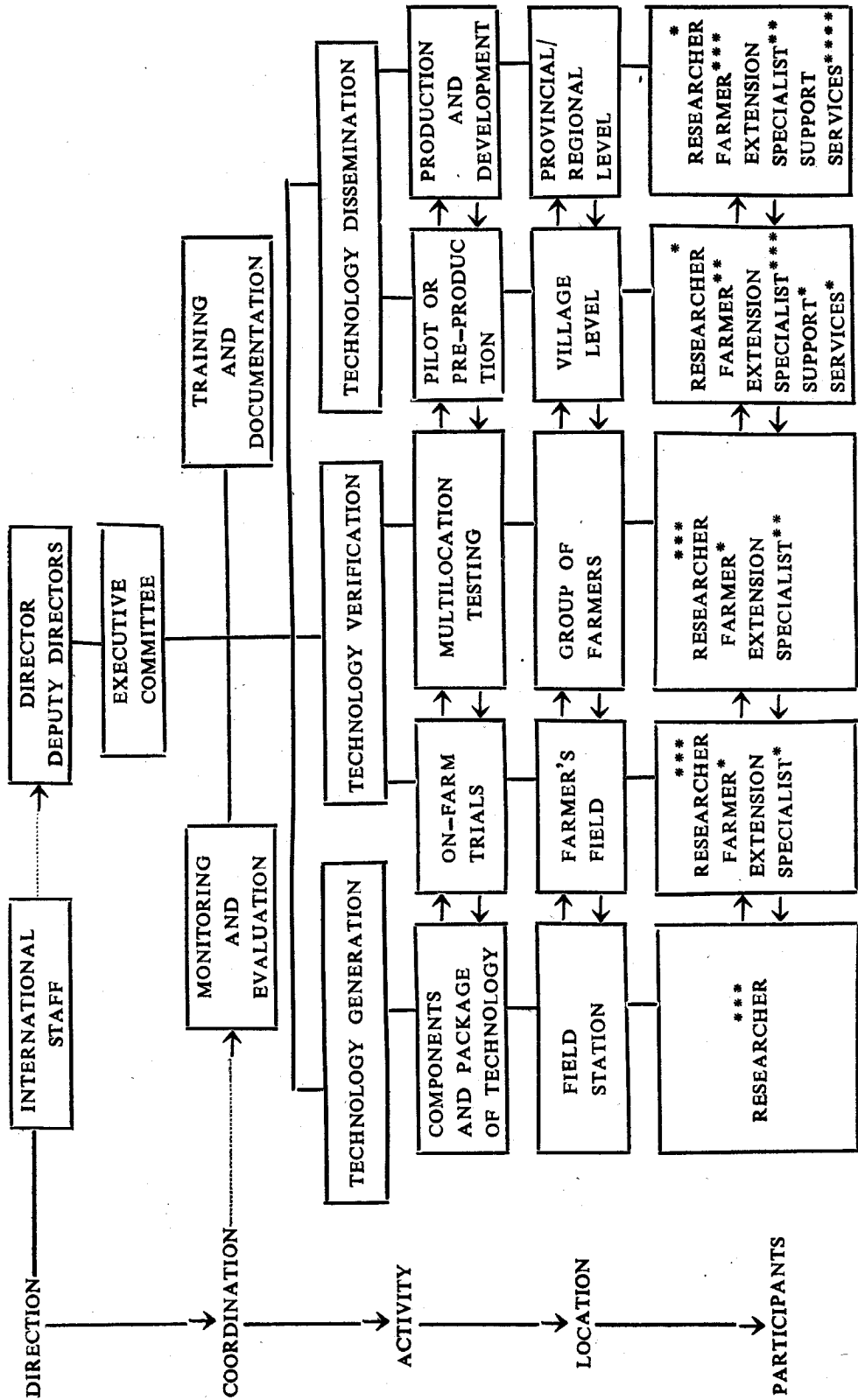
To divide the pie is one thing and to distribute the credit where it is due is another. The latter is more delicate to handle. we do realize that scientists are quite keen about this. Research is their life and blood. Just imagine a researcher working day and night for a project and when a publication is put out his name was not even mentioned.

While this is true for individual participants, this is also true for the concerned agencies. The agency head needs it to justify his budget from the Government.

For most cases, it is not really a sin of commission but one of omission. It will be nice to take a little time and recognize the help of each participant either written, orally or otherwise.....this is for the sake of the project, FOR THE SAKE OF THE SMALL FARMERS.

THAILAND

Fig. 1. INTEGRATED RAINFED FARMING RESEARCH AND DEVELOPMENT  
DIAGRAMATIC REPRESENTATION OF INSTITUTIONAL ROLES



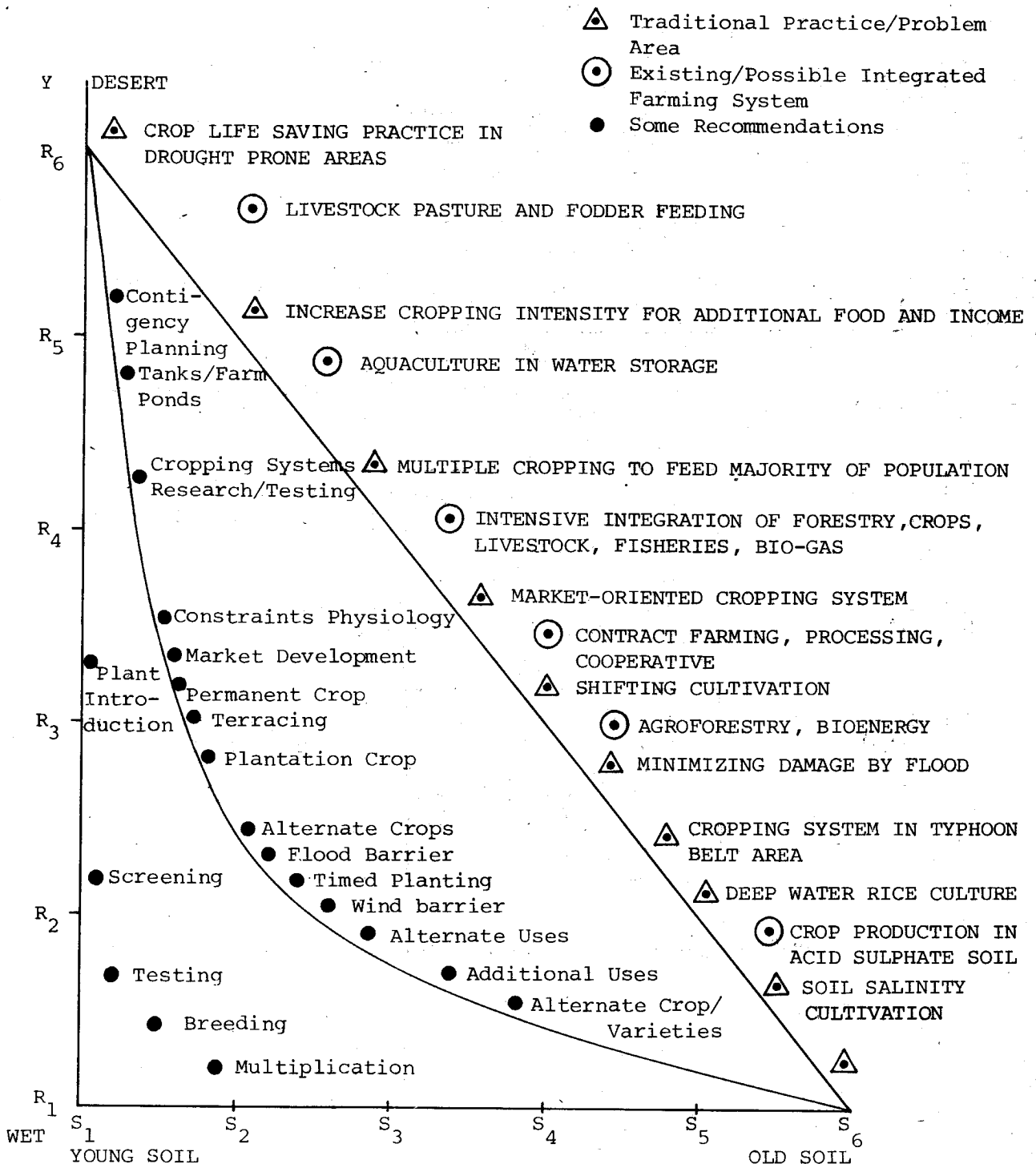
\*\*\* Main Responsibility

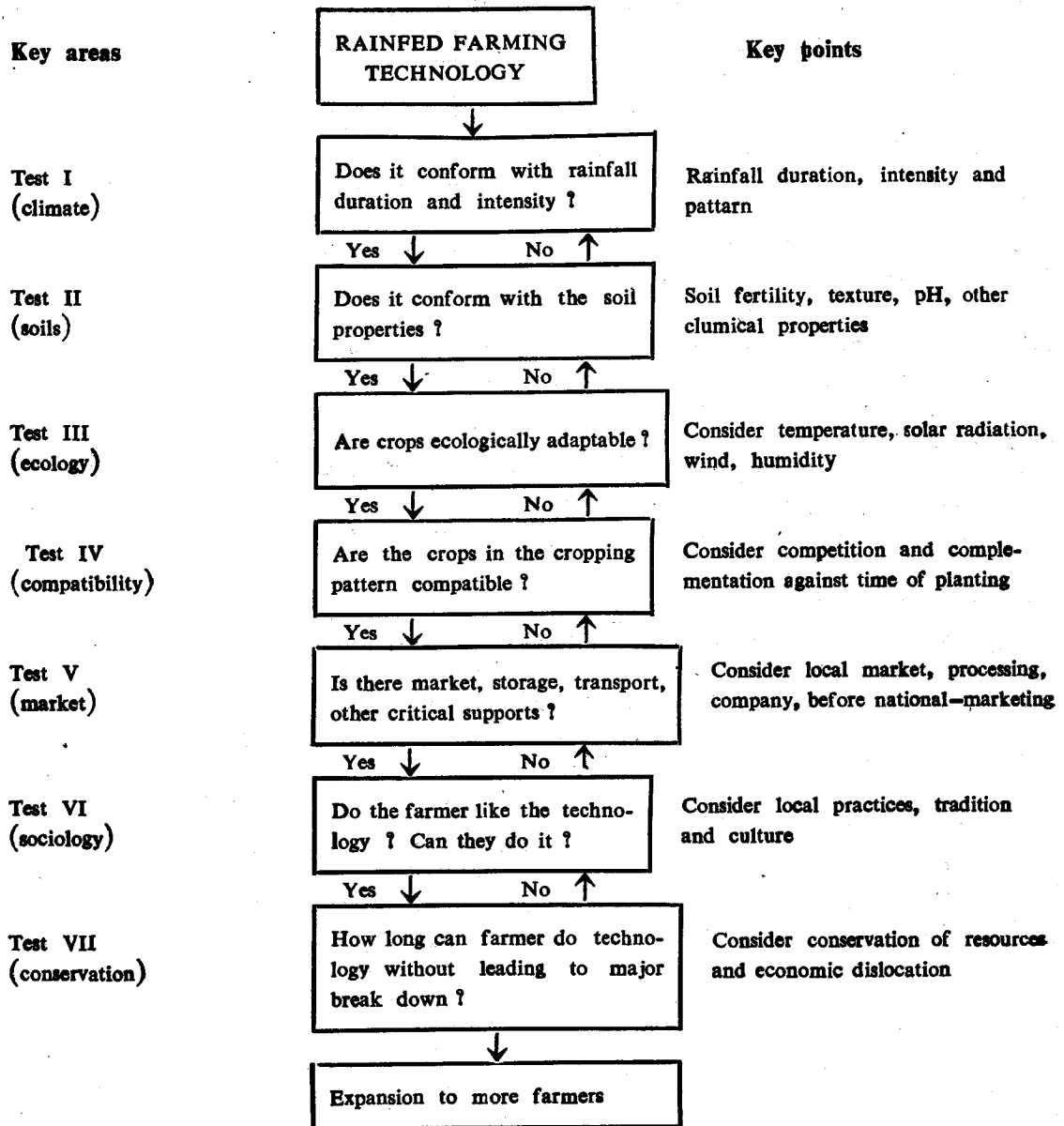
\*\* Major Role

\* Participating

\*\*\*\* Private Enterprise will determine the size of the industry

**Fig. 2. IDEALIZED PRESENTATION OF RAINFED FARMING SYSTEMS IN SOUTH AND SOUTHEAST ASIAN AGRO-ECOLOGICAL ZONE**





**Fig. 3** Seven point test : On Cropping farming systems technology