Farming Systems Research

บทคัดย่อ

ในการอภิปรายครั้งนี้ ผู้บรรยายพิเศษได้กล่าวแนะนำในเบื้องแรกถึงความหมายทั่วไปของคำว่า "ระบบการทำฟาร์ม" แล้ว จึงเล่าถึงข้อสรุปที่สำคัญต่าง ๆ จากประสบการณ์การดำเนินงานวิจัยระบบการทำฟาร์ม ซึ่งนักวิจัยรุ่นแรกได้รับบทเรียนมา ซึ่งชี้ให้เห็นว่างานวิจัยชนิดนี้มีลักษณะเด่นเฉพาะตัวหลายประการที่ผิดแผกแตกต่างไปจากลักษณะงานวิจัยเฉพาะสาขาที่นักวิจัยทั่วไปเคยชิน และในช่วงสุดท้ายก็ขอให้ข้อสังเกตว่า ในปัจจุบันมีโครงการวิจัยมากมายที่ใช้ชื่อ "ระบบการทำฟาร์ม" หรือ "ระบบการปลูกพืช" แต่มิได้นำเอาบทเรียนหรือข้อสังเกตของนักวิจัยระบบการทำฟาร์มรุ่นก่อนมาใช้ให้เป็นประโยชน์

บทความนี้ได้รวบรวมคำถาม-คำตอบระหว่างผู้บรรยายและผู้ซักถามไว้ข้างท้ายด้วย

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บทความ

System : a set of components that interact so they behave as a whole to meet a hierarchy of objectives.

Farming System : the utilization of a household resources in a unique and reasonably stable arrangement of enterprises which the household manages according to defineable practices in response to the physical, biological and socio-economic environment to meet the households hierarchy of goals.

Farming system research :

The objectives of the early workers in "Farming Systems Type" Research were :

(1) To develop and make available to small farmers an agricultural systems responsive to their needs.

(2) To expose weaknesses in infrastructural support for small farmers.

(3) To familiarize urban-orientated agricultural researchers to the small farmers situation and problems.

The early workers had two motivations

(1) A concern that the research system was aimed at solving the larger commercial farmers' problems and the small farmer was going to be left out.

(2) A concern that the technology developed for the small farmer was not being adopted and their effort was being wasted.

Out of this early work some basic principles emerged :

(1) The system or subsystem must be clearly defined, particularly regarding its boundaries.

(2) The goals of the system must be understood and become the goals of the research, although for technical and resource reasons the hierarchy may be different.

(3) No one discipline could adequately define the system or conduct research to help it meet its goals.

(4) Interactions in the system and the research process were often more important than straight cause and effect relationships.

(5) A large portion of the research must be conducted in the system (on the farm) so these interactions could be understood and changes evaluated.

(6) Since a system is dynamic and adjusts to constantly changing environmental factors static studies were of limited value. The description and research of the system had to be on-going within the system.

(7) Remote control research was very inefficient, researchers and technical staff had to be on site; i.e., at least partially integrated into the system.

(8) FSR is not suited to centralized control, responsibility and authority must be with the field research team.

(9) In developing an interdisciplinary group it is most important that the people have a personality suited to teamwork.

(10) Very few people have studied systems research and an orientation program for all team members is important.

(11) The central focus of the team must be to develop or adapt technology to meet the farmers needs.

Lately there have been a great number of programs and projects started which use the name FS or CSR. Many have ignored the principles learned earlier. Many of these projects use a system approach to conduct research on a discipline or commodity problem but they are not FSR.

The Farming Systems Research Process

System and subsystems

Science (world)
Ag Science (world)
Thailand Ag. Science
DOA, Universities
Divisions
Special Study Areas
FSR

Question 1 In the Thai FSRS, where are the boundaries, have they been defined, and do all participants know and understand?

The Thai Ag. Science and Research System has a hierarchy of goals. Different subsystems have a different hierarchy within this.

Question 2 What are the goals and their hierarchy in the FSR and what are the subsystems goals?

This meeting and others before it plus all the informal discussions indicate that those groups interested in FSR do want to interact.

Question 3 What are the strengths and mandates of each group and what type of structure or coordination will ensure efficient interaction to meet the goals?

Every system has a set of checks and balances to ensure it is meeting its goals or to adjust the hierarchy of the goals.

Question 4 In the Thai FSR what are the checks and balances for the interactions and for adjusting the goals; i.e., what type of internal evaluation procedure will promote efficient research?

Since FSR is still relatively new and there is no general training program for the FSR methodology all groups interested in developing, expanding and perpetuating the methodology are developing training program.

Question 5 What activities does the FSRS have to perpetuate itself, and if wanted expand, that are a direct part of the system and subsystems.

Developing a FSR System, Problems and Possible Solutions

1. Lack of communication both vertically and horizontally

Generally the programs that have been most successful are those that have organized their staffing so there is a high level of interaction both formal and perhaps more important informally; e.g. Sri Lanka regional and district stations.

2. Lack of training or orientation

The concepts and methodology are new expecting people to pick it up as they go along is asking for trouble.

In Taiwan program policy maker, administrators, financial people, senior scientists, junior scientists, technical staff all are given training and equally important follow-up courses.

3. Totally unrealistic expectations of methodology

FS is a research methodology and as such will have more failures than successes.

4. Unrealistic plans about how long and the resources required to develop an effective interdisciplinary team from a group of discipline and commodity orientated and trained people.

Although the goal is to develop technology and adjust the infrastructure to support the farmer sufficient time and resources must be used to give the people a chance to adjust.

I do not think any country can be held up as an example but there are individual institutions making an effort: the Bangladesh Rice Research Institute has insisted research and extension stay at the same site for 3 years and this has worked well. Lately there has been some drastic changes.

General Questions :

Question : Would you say something about leadership in FSR?

Answer : Leadership is most important and I should have covered it. Since we are discussing interdisciplinary research the leaders must have more abilities than are required in disciplinary or commodity research. I don't expect that one man can supply all the leadership for all FSR in Thailand. I would expect to see a small group of dedicated scientists meeting regularly to promote interaction and solve problems. The leaders of FSR should be promoting ideas from all staff since no one person or small group can have all the best ideas.

Question : You made some strong statements about training and discipline problems. What would you suggest a University do?

Answer : There are a large number of possibilities but I will mention two that represent the two major problem areas. The first is staff attitudes that are transferred to students. Professors that ridicule other disciplines in class should redirect their energies. A classic example is economics ridiculing agronomy for aiming at maximum yield. The second possibility is a systems class. In the first year it might be aimed at showing how the different disciplines fit together in understanding the farm. This would help the student understand how and where future courses fit into the whole system. If given in the final year a course on systems research concepts and methodology would be of great help.