3

The use of sustainability analysis in Northeast Thailand

Iain Craig

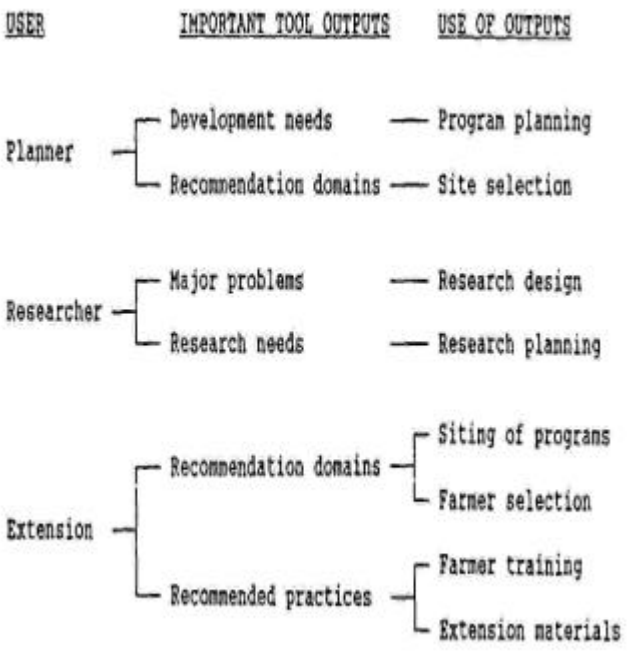
• Introduction

There is a growing interest throughout the world in simple, systematic and innovative techniques designed to acquire, analyse and effectively utilise information in rural development programs. These techniques or 'tools' differ markedly from conventional approaches, which are largely characterised by a lack of flexibility, a concentration upon the collection of quantitative data and their inability to respond to the real needs of rural people.

Most of these new, innovative techniques have been developed by practically-oriented academic groups, following Farming Systems Research, Agroecosystem Analysis or Rapid Rural Appraisal approaches. However, their adoption by national development programs has been slow, mainly because potential users tend to view them as mutually exclusive approaches, rather than as a collection of component tools that can be assembled for a particular purpose. Many of the tools also require simplification if they are to become widely used, the challenge is to accomplish this while still maintaining adequate scientific rigour.

The NERAD Project, in association with Thailand's regional Universities, has been addressing these issues by reviewing, analysing and simplifying the individual techniques, and documenting them as 'tools' by means of user-oriented handbooks. The handbooks have the common objective of assisting staff and officials of rural development programs to choose suitable tools according to their specific needs and available resources. By this means, it is hoped that workers with little or no previous experience, will be able to assemble the most appropriate 'user- tailored package' and utilise the tools rapidly and effectively.

This report describes NERAD's attempt to do this for 'Sustainability Analysis', one of the first tools to be documented as a handbook in both Thai and English. The article is intended merely as a general summary of the major lessons learned, and more details and specific guidelines for using the technique can be found in the handbook, copies of which are available from the NERAD Project Director.



Source: RRA Notes (1988), Issue 3, pp.15–18, IIED London

• Practical application

Sustainability Analysis was one of the 16 tools reviewed, simplified and documented as a handbook by the recent workshop held for this purpose in Korat, Thailand (See RRA Notes No 1, June 1988). The completed handbook has now been used by NERAD for training participants in the Project's technical review workshops, before they use the tool to analyse the results of trial technologies implemented by the Project.

In the first of these workshops, which covered integrated water-resource development and utilisation, participants received training in Sustainability Analysis techniques on the first morning, and then broke into sub-groups to use the tool. Half a day was allocated for the analysis of each technology, and although progress was slow at first, skills improved rapidly as experience was gained, and a total of ten technologies listed below were analysed by the end 0f the workshop.

Group 1: Groundwater

Shallow wells
Modified well

Group 2: Fish Production

Fish in paddy
Village fishery
Village school fish ponds

Group 3: Construction

Diversion weirs
Embankments
Swamp rehabilitation

Group 4: Integrated Use

Family water-use
Communal use

The outputs from the analyses are now being used as guidelines for the production of extension handbooks. These will contain recommended implementation-practices, recommendation domains and future research and development requirements for each technology, and will be published and distributed to the relevant line- agencies for use in their regular work in the future. As an example of the type of outputs obtained, a summary for the technology of raising fish in the rice paddy, is presented in the following table.

Source: RRA Notes (1988), Issue 3, pp.15–18, IIED London

Implementation stage	Key problems emerging	Key solutions identified
Choice of site:	- lack of security - poor water control - prone to flooding	- site close to house ❖ modified shallow well - mid-elevation paddy
Farmer training:	- construction delayed - farmers unwilling to dig trenches/ponds - lack of knowledge on fingerling sources	- closer supervision - farmer to farmer study-tours - media broadcasts ❖ local fish spawning by farm
Preparation of materials:	- netting/construction too expensive	- loans for farmers
Fish release:	- lack of water - lack of fish feed - effect of fish on rice and vice versa	❖ modified shallow well - nursery ponds deeper ❖ use farm by-products ❖ study of rice/fish ecology needed ❖ change fish species
Marketing:	- lack of local markets	- farmer marketing groups

❖ Denotes a potentially promising but untested solution, that warrants a high research priority

• Conc1usions

Sustainability Analysis has proved useful to NERAD for a number of reasons. First, it is simple and inexpensive to use and can be applied to analyse any type of technology. Secondly, it is not threatening to either research or extension personnel, and thus promotes a frank and honest analysis. Finally, its effectiveness can be significantly enhanced by using it in conjunction with other tools, in particular: On-Farm and Multi- location Trials, Topical Agroecosystem Zoning, Triage and Farmer Classification.

Sustainability Analysis undoubtedly still has many potential uses that have not yet been tested, and further applications of the technique should therefore be encouraged. Use of the tool in Thailand has demonstrated the generally poor level of understanding of the system properties of productivity, stability, equitability and sustainability, and promoting a wider acceptance of these as important measures of system performance, will enhance the utility of the tool. Perhaps the most pressing development need for Sustainability Analysis is to find a more appropriate name for it. This is by no means a pedantic requirement, as the purpose of the tool is often perceived as assessing only the key sustainability properties of the system, and as a consequence, it has been significantly under-utilised.

• **Iain Craig,** Farming and Cropping Systems Specialist, NERAD Project, Northeast Regional Office of Agriculture, Tha Phra, Khon Kaen 40260, Thailand.

REFERENCES

Craig, I.A. 1988. Sustainability Analysis. Agricultural Development Tools, Handbook No 17. Northeast Regional Office of Agriculture, Tha Phra, Khon Kaen, Thailand (In English)

Chouangcham, P. 1988. Sustainability Analysis. Agricultural Development Tools, Handbook No 17. Northeast Regional Office of Agriculture, Tha Phra, Khon Kaen, Thailand (In Thai)

Craig, I.A. and Pisone, U. 1988. A Summary of the NERAD Promising Processes, Methodologies and Technologies for Rainfed Agriculture in Northeast Thailand, NERADICS Report TO Northeast Regional Office of Agriculture, Tha Phra, Khon Kaen, Thailand.

Pretty, J.N., Craig, I.A. and Chouangcham, P. 1988. Familiarisation Notes on Simple and Innovative Tools for Agricultural Development Programs. NERAD Project, NEROA, Tha Phra, Khon Kaen, Thailand.

For further information or copies of these reports please contact Iain Craig.

Source: RRA Notes (1988), Issue 3, pp.15–18, IIED London