

## Chapter 3. Methodology for the Study

### Establishing the Projects/Initiatives Dataset

- 3.1 The SAFE-World project began in December 1998. The aim project was to audit recent worldwide progress towards sustainable agriculture, and assess the extent to which such projects/initiatives, if spread on a much larger scale, could feed a growing world population that is already substantially food insecure. We accessed an international network of key people in the field of sustainable agriculture and food security, and asked them both to suggest projects and initiatives, and to pass on details of this research project to other relevant people or institutions.
- 3.2 We asked for nominations of sustainable agriculture projects/initiatives that showed trustworthy and verifiable evidence of improvements to food production and to natural, social and human capital. The aim was to investigate both processes and outcomes, and to draw conclusions on whether such improvements could significantly help to feed the growing world population in the course of the 21<sup>st</sup> century without causing further damage to environmental and human health.
- 3.3 We asked for projects/initiatives at three levels: i) research projects with active farmer involvement, but which may not yet have spread; ii) community-based projects with proven impacts; and iii) regional initiatives/projects that have spread to many communities.
- 3.4 We excluded projects/initiatives where i) there had been payments to farmers for participation (as there are doubts that ensuing improvements persist after such incentives end); and ii) where yield increases have arisen only from fossil-fuel derived external inputs - not because these are not means to improved agricultural productivity, but rather to see what can be achieved by farmers with locally-available natural and human resources in the first instance.
- 3.5 We also accessed contacts from a previous Africa-focused research project (Hinchcliffe et al, 1996), and drew upon case studies developed by the UN FAO in conjunction with the University of Essex in 1999 for the stock-taking paper in the "*Multifunctional Character of Agriculture and Land*" process (FAO, 1999). Additional nodal research and policy organisations concerned with sustainable agriculture, food security and rural development were contacted for further project nominations.
- 3.6 All projects/initiatives were sorted into country files with a short title, relevant contact information and full details of primary information sources. The complete dataset will be posted on a freely accessible website in early 2001<sup>4</sup>.

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<sup>4</sup> Full details will appear at [www2.essex.ac.uk/ces](http://www2.essex.ac.uk/ces)

## Survey Instruments and Methodology

- 3.7 We developed a four-page questionnaire, with a short descriptive rationale on sustainable agriculture and the aims of this research project.
- 3.8 The questionnaire was centred on an assets-based model of agricultural systems, and was developed to understand both the role of these assets as inputs to agriculture and the consequences of agriculture upon them (Pretty and Hine, 2000; Pretty, 2000a). The questions were also formulated with regard to the nine types of sustainable agriculture improvement identified in the conceptual base for this project (see Box 1; Annex B for details).

### Box 1. Nine types of improvements for sustainable agriculture

- 1: Better use of locally-available natural resources
- 2: Intensify microenvironments in farm system (gardens, orchards, ponds)
- 3: Diversify by adding new regenerative components
- 4: Better use of non-renewable inputs and external technologies
- 5: Social and participatory processes leading to group action
- 6: Human capital building through continuous learning programmes
- 7: Access to affordable finance (credit, grants, subsidies)
- 8: Added value through processing to reduce losses and increase returns
- 9: Adding value through direct or organised marketing to consumers

*See Annex B for more details*

- 3.9 The questionnaire addressed i. key impacts on total food production, and on natural, social and human capital; ii. the project/initiative structure and institutions; iii. details of the context and reasons for success; iv. spread and scaling-up (institutional, technical and policy constraints); v. project summary.
- 3.10 The SAFE-World questionnaire was sent out in English, French and Spanish to all potential projects by email and conventional post. Field operatives from nodal organisations were contacted with specific requests and questionnaires.
- 3.11 Each project was contacted with a personalised covering letter and questionnaire, and the resultant high response rate (some 60% of those contacted replied with some information) appears to be a consequence of this personal contact. Some 200 reminders and questionnaires were sent out by email in autumn 1999 to attempt to access those who had not yet answered. Follow-up contacts were made to many of these during the first half of 2000. In a number of instances, we received secondary data on the project rather than a completed questionnaire.
- 3.12 We collated all returned questionnaires and secondary material, and added this to the country databases. All datasets were re-examined to identify gaps and ambiguities, and correspondents contacted again to help fill these. The findings were all verified by external experts.
- 3.13 We then transferred the final project/initiative findings to a project summary sheet, which contains a narrative on the project and a summary of key process

factors and outcomes. Some of the project summary sheets have an attached article or paper containing extensive details of the project/initiative. All of these will be placed on the web database.

- 3.14 At end of 2000, the results from 208 projects/initiatives in 52 countries had been included on the database and used for the analysis (see Table 5).
- 3.15 We also scored every project/initiative for the types of sustainable agriculture improvement used (Types 1-9) (see Chapter 3 for analysis of findings).

**Table 5. Summary of projects/initiatives entered on University of Essex sustainable agriculture database**

	<b>Number of projects entered on database at October 1<sup>st</sup> 2000</b>	<b>Number of countries represented</b>
Latin America	45	17
Asia	63	12
Africa	100	23
Total	208	52

### **Verification**

- 3.16 The questionnaires are self-completed, so are subject to potential bias. We are aware that it is in the nature of things for project leaders to put the best possible gloss on their results. We therefore established trustworthiness checks by engaging in regular personal dialogue with respondents, through checks with secondary data, and by critical review by external reviewers and experts.
- 3.17 We verified projects by sending full details entered on the database to the named verifier on the questionnaire. We also sent batches of projects to key authorities to obtain a second or third view on the project.
- 3.18 This research conducted a purposive sample of existing 'best practice' sustainable agriculture projects/initiatives. It was neither a random nor representative sample of all agricultural projects. Our aim was to discover the impacts of existing initiatives, and to reveal the processes and policies that encouraged or promoted them. The research draws conclusions from this best practice on what is possible given certain conditions - with particular respect to the core question: can sustainable agriculture feed the world?
- 3.19 We used email for contact with many contributors. This allowed an extraordinary degree of regular exchange and has, we believe, increased the reliability of the findings. However, this also represents a further source of bias. Information was also sent out and received by conventional post, but the regularity of contact has

been less for these correspondents.

### **On the Projects and Initiatives Audited**

- 3.20 The unit of comparable 'currency' in this research is the 'project' or 'initiative' - a deliberative attempt to induce change in practices and/or attitudes and behaviour in a given context. Clearly, though, not all agricultural development proceeds through such deliberative action, nor can be attributed to it. Equally, not all the outcomes recorded for each project can be attributed directly to their own efforts. Some positive outcomes may indeed have occurred without the presence of a project/initiative. Given the nature of the research, it is impossible to say whether this is indeed the case.
- 3.21 The success of any sustainable agriculture project will also depend on the local context. An agricultural system does not exist in isolation, and so variations in these climatic, cultural, economic, legal, political and social factors will influence the degree of success of a project. Two identical projects in neighbouring countries would be expected to have different outcomes owing to the effect of national policies, economic conditions and national institutions.
- 3.22 The primary data concern was for information on yield changes, numbers of households, and area of improvement in order to determine the potential contribution to food security. Additional positive and negative effects on natural, social and human capital help to illustrate the wider potential and positive role of sustainable agriculture on environments, communities and rural economies.
- 3.23 The research relied on existing data gathered from impact evaluations by projects themselves or by associated external bodies. We emphasised, therefore, both temporal comparisons (before-after) and spatial comparisons (with-project and without-project). As not all have conducted such baseline or evaluation analyses, there are inevitable gaps in the SAFE-World dataset.
- 3.24 Furthermore, such baselines and controls may not be fixed entities: in Sri Lanka, the CARE farmer field school-IPM programme compared outcomes with nearby non-IPM farmers as controls, but then found that these farmers were actively copying the IPM farmers. They had then to adopt another category of untrained and unexposed farmers. Rice yields were 4500 kg/ha with FFS; 4000 kg/ha for local copiers; and 3000 kg/ha for unexposed farmers (Jones, 1999). This indicates some projects are already independently spreading to new farmers.

### **Projects/Initiatives Included or Omitted**

- 3.25 We began the research with a focus on sustainable agriculture in both developing and industrialised countries, but later focused efforts solely on developing country contexts owing to the size of the task. The web database will eventually contain details of sustainable agriculture in the industrialised countries of North America,

Europe, Asia and Australasia.

- 3.26 We have rejected cases from the database on several grounds:
- i. where there is no obvious sustainable agriculture link;
  - ii. where there is heavy reliance on fossil-fuel derived inputs for improvement (this is not necessarily to negate these projects, but to indicate that they are not the focus of this research);
  - iii. where the data provided in the questionnaire has been too weak;
  - iv. where findings are unsubstantiated by the verification process;
  - v. where projects have been concerned with only safe-use or targeted use of pesticides/herbicides with no renewable or regenerative elements.
- 3.27 However, we have clearly missed many novel, interesting and globally-relevant projects/initiatives. Just because this research project is global in scope does not mean we have been able to be comprehensive. We therefore present conservative estimates of what has been achieved, over what area, and by how many farmers.
- 3.28 Nonetheless, we also recognise that there will be both misrepresentations and mistakes. Successful projects may turn into failures through no fault of their own. Others, though, may be considerably more successful than we have reported.
- 3.29 We are unlikely to have accessed failing sustainable agriculture projects, as such data will not have been written up or forwarded. This may include projects with some sustainable agriculture principles, but which used direct financial or material incentives to encourage farmers to adopt practices rather than use participatory processes. This may also include some projects that have failed to build renewable assets.
- 3.30 We accept that there may have been some double-counting in this research. Several projects may have been working with the same farmers, or national or regional estimates may incorporate a number of smaller projects. However, given the discrete nature of most projects and initiatives, we do not believe this to be a significant problem in this dataset, and estimate a maximum possible double-count of 5.6% of the total of 8.98 million hectares.
- 3.31 We have not investigated the temporal effect of asset-building. This study inevitably results in a snapshot of outcomes, and does not yet account for the fact that projects/initiatives may be at different stages in asset accumulation. This may distort findings - probably to the disadvantage of sustainable agriculture in comparison with conventional or modernised agriculture.
- 3.32 For example, modern agriculture is partially successful because it externalises some of its costs through imposing damage on environmental and human health. Its success results in the deterioration of renewable assets. If such a system converts to a type of more sustainable agriculture that relies on these very assets for its success, assets which have been degraded, then it will appear less successful in the early years. But as natural, social and human capital accumulates, and farmers and

communities are better able to make productive use of nature and their own capabilities, then we would expect outcomes steadily to improve.