SUSTAINABLE AGRICULTURE

Jules N Pretty

1 FUNDAMENTAL CHALLENGES FOR SUSTAINABLE AGRICULTURE

Despite remarkable increases in food production in the second half of this century, profound challenges still face farmers and those engaged in agricultural development. Modern farming, characterized by increased use of such external inputs as fertilizers, pesticides, seeds and machinery, has also brought environmental and social costs. Some argue vigorously that such modern agriculture is the only path for agricultural development (World Bank 1993; Borlaug 1992; TAC 1988).

Many others, though, take a different view, drawing on evidence that a revolution in sustainable agriculture has begun. Where agriculture incorporates natural processes such as nitrogen fixation and pest-predator relationships into productive processes; reduces the use of off-farm inputs by substituting labour and management; makes greater productive use of the biological and genetic potential of plants and animals; and improves the match between crop patterns and the productive potential and physical limitations of the land, it can successfully revitalize local economies and environments (Pretty 1994; UNDP 1992; NRC 1989).

In the complex, remote and 'resource-poor' parts of the world, farmers adopting regenerative and re- productive use of the biological and genetic potential of plants and animals; and improves the match between crop patterns and the productive potential and physical limitations of the land, it can successfully revitalize local economies and environments (Pretty 1994; UNDP 1992; NRC 1989).

The degree (one year full-time or two years part-time) includes courses in Environment and Society; Anthropology, Human Ecology and Development in Brazilian Amazonia; Ecology and Land Development in Amazonia; Introduction to the Economics of Latin America; and a dissertation.

Other Master's degree programmes offered: MA in Area Studies (Latin America); MSc in Latin American Politics; MA in the Literature and Culture of Latin America.

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ALTERNATIVE SYSTEMS OF INQUIRY FOR A SUSTAINABLE AGRICULTURE

Junes N Pretty

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agricultural systems have been transformed. But where neither the technologies have fitted local sys-
isms nor farmers been controlled, then agricultural modernization has passed rural people. By some
1.5 billion people now rely on agricultural systems in which cereal yields have remained of the order of
0.5 - 1 tonne per hectare over at least the past 50 years.

Many positivists are inevitably frustrated and con-
 fused when faced with the notion of sustainability. In
as much as they believe independent reality exists, then must it be possible precisely
to define sustainability in value-free terms. There are
now something of the order of 70 such definitions, the author of each regarding it as the best. To
show that something is sustainable, positivists also need indicators against which to measure perfor-
ance. These help to show how close a system is to
being sustainable. If it is far away, then activities
tought to be changed so as to come closer to the
ultimate goal.

But no scientific method will ever be able to ask all the
questions about how we should manage res-
ources for sustainable development, let alone find
the answers. The results are always open to inter-
pretation. All actors, and particularly those stakeholders
with a direct social or economic involvement and inter-
est, have a uniquely different perspective on what is a problem and what constitutes improve-
ment in an agricultural system. As Wynne has put it:
the conventional view is that scientific knowledge
and method enthusiastically embrace uncertainties
and exhaustively pursue them. This is seriously
misleading" (Wynne 1992). The trouble with normal
science is that it gives credibility to opinion only
when it is defined in scientific language, which
may be inadequate for describing the complex and
changing experiences of farmers and other actors in
rural development. As a result, it has alienated
many of them.

3 ALTERNATIVES TO THE POSITIVIST
PARADIGM

The positivist paradigm is so pervasive that, by
definition, those inside it cannot see that alterna-
tives exist. Indeed, the absolutist position of
positivism excludes other possibilities. Yet the im-
portant point about positivism is that it is just one of
many ways of describing the world (Kuhn
1962; Feyerabend 1975; Habermas 1987; Giddens

A new set of paradigms is now emerging from ad-
vances in a wide range of disciplines and fields of
investigation, such as from developments in math-
amatics, computer science, quantum physics (Gleick
1987; Gould 1989); from quantum physics; from post-
positivism (Phillips 1990); from critical theory (Jackson
1991; Popkewitz 1990); from constructivist inquiry (Lincoln and Guba 1985; Denzin 1989; Guba 1990;
Roling and Jiggins 1993); from soft-systems and con-
textual science (Checkland 1981; 1989; Russell and
Jones 1991; Bawden 1992); from the philosophy of
symbiosis (Kurokawa 1991); from post-modernism
(Harvey 1989); and from stakeholder analysis
(Burgoyne forthcoming). There are many others not
listed here.

Although these are all alternatives to positivism, they are not necessarily commensurable with each
other (Guba 1990; Jackson 1991). Post-positivism, for
example, is often taken to be a modified version of
positivism, in which reality is believed to exist, but
which is impossible truly to be perceived by us.
Objectivity remains an ideal, and triangulation of
data, investigators, theories and methods is the means
to ensure that interpretations of the world are not
distorted. By contrast, critical theory suggests that
the world can only be seen through a 'value window',
and the choice of value empowers some people and
disenfranchises others. The task of inquiry is to
transform people, so raising them to a 'true' level of
consciousness. Like positivism and post-positivism,
its ontology (the nature of reality) is realist, though
the epistemology (the nature of the relationship
between the knower and known) is subjectivist.

A further contrast is with constructivism, in which
reality is believed to exist only in the context of a
mental construct. As knowledge is a human con-
struction, no unequivocal explanations are therefore
ever possible. There will always be large numbers of
theories that can explain a given body of facts,
and choosing one theory cannot be value-free. Inves-
tigation is value-bound, in which the interaction
between inquirer and investigated shapes the
outputs or findings.

The advances in alternative paradigms have impor-
tant implications for how we go about finding out
about the world, generating information and so
taking action. All hold that 'truth is ultimately a
mirage that cannot be attained because the worlds we
know are made by us' (Eisner 1990). Although some
would argue that these paradigms are as different
from each other as from positivism, there is no need
to select one position or basic set of beliefs above
another. All suggest that we need to reframe the way
we think about methodologies for finding out about
the world. This should not be surprising, as 'the
language of reductionism and positivism does not
entertain the very complex and dynamic phenomena
associated with the quest for sustainable practices'
(Bawden 1991).

4 UNDERLYING PRINCIPLES OF
ALTERNATIVE PARADIGMS

Five principles set out the crucial differences
between these emerging paradigms and positivist
science:

1 The first is that any attempt precisely to define
sustainability is flawed. It represents neither a fixed
set of practices or technologies, nor a model to de-
scribe or impose on the world. The question of
defining what we are trying to achieve is part of the
problem, as each individual has different objec-
tives. For us to prescribe a concretely defined set of
theories, practices or policies would be to close
down on future options, so undermining the notion
of sustainability itself. Sustainable agriculture is,
therefore, not so much a specific farming strategy as
it is a systems-oriented approach to understanding
complex ecological, social and environmental
interactions in rural areas.

2 The second is that problems are always open to
interpretation. All actors have uniquely different
perspectives on what is a problem and what
constitutes improvement. As knowledge and under-
standing are socially constructed, what each of us
knows and believes is a function of our own unique
contexts and pasts. There is, therefore, no single
'correct' understanding. What we take to be true
depends on the framework of knowledge and as-
sumptions we bring with us. Thus it is essential to
seek multiple perspectives on a problem situation
by ensuring the wide involvement of different actors
and groups.

3 The third is that the resolution of one problem
inevitably leads to the production of another 'proble-
situation', as problems are endemic. The reflex
of positivist science is to seek to collect large amounts
of data before declaring certainty about an issue or
problem. As this position reflects the 'real world',
many positivists believe that these paradigms are as different
from each other as from positivism, there is no need
to select one position or basic set of beliefs above
another. All suggest that we need to reframe the way
we think about methodologies for finding out about
the world. This should not be surprising, as 'the
language of reductionism and positivism does not
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4 The fourth is that the key feature now becomes
the capacity of actors continually to learn about these
changing conditions, so that they can act quickly
to transform existing activities. Action in the quest for
sustainable agriculture does not demand certainty
before intervening in the environment. It should make
uncertainties explicit and enable debates that may
not obstruct wider public debates about pursuing
new paths for agricultural development. The find-
ings of any investigation no longer can be conceived
of as a report on what really exists, but are the result
of the process that created them. The world is open
to multiple interpretations, and so it is impossible to
say which one is true.

5 The fifth is that systems of learning and inquiry
are needed to seek the multiple perspectives of the
various stakeholders, encourage involvement and
action, and resolve conflicts for the common and
future good. The view that there is only one
epistemology (that is, the scientific one) is rejected.
Participation and collaboration become essential
components of any system of inquiry, as any
change cannot be effected without the full involve-
ment of all stakeholders and the adequate represen-
tation of all views and perspectives. As Skrinkandarakajj et al. (1991) put it: 'ways of research-
need to be developed that combine finding out
about complex and dynamic situations with 'taking
action' to improve them, in such a way that the
actors and beneficiaries of the 'action research' are
intimately involved as participants in the whole
process'.

The positivists' response to these principles is to
suggest they are all a recipe for chaos. If information
is changeable, locally-valid, value-laden and en-
tirely open to interpretation, how can it be trusted?
Whose illusion are we pretending to believe today? Where
is order? Does this not suggest that science is
unbelievable and that 'anything goes'? Is there no
more justification for scientific claims?

But non-positivists do not say that science does not work. They point out that what positivist science
wants is ways of predicting and controlling nature
and so a good scientific theory simply gives better
classification and control. A more honest way of
thinking about science as a human tool, not as

Conflict does not have to flow from people accepting different meanings. The greatest threat of conflict or violence comes from someone who claims their views are the only views, without accepting other views. Thus, we must resist the notion of certainty, which is the source of dogmatism and ideology. The paradox is that scientists will readily admit they are constantly having to change their own ideas about reality in the course of their work.

We can only get a human idea of what is in the world, and so science itself can only be a human picture of the world. How we see the world depends on what matters to us. As different people have different values, this raises critical issues for how do their values affect the way we go about learning about the world? Why do they need the information? Why do they think it is important? How will they judge whether it is useful or good?

These questions are not addressed unless investigators have a framework to help organize methods into a system of inquiry. Using a formal survey with a pre-set questionnaire has long been the standard choice for those wishing to gather agricultural information. The questionnaire is given to trained enumerators who interview a sample group selected from a larger population. As each informant is asked the same set of questions, it is assumed that the interviewer does not influence the process. In recent years, there has been a rapid expansion in alternative systems of inquiry. These have drawn on many long-established traditions that have put participation, action research, and adult education at the forefront of attempts to liberate and emancipate disempowered people (see Chambers 1991).

5 MULTIPLE USES OF ‘PARTICIPATION’

There is a long history of ‘participation’ in development, and a wide range of development agencies, both national and international, have attempted to involve people in some aspect of planning and implementation. The terms ‘people’s participation’ and ‘popular participation’ are often confused. There is a need to analyse the language of many development agencies, including NGOs, government departments, banks, and aid agencies. This has created many paradoxes. The term ‘participation’ has been used to justify the extension of state control and to build local capacity and self-reliance; it has been used to justify external decisions and to devalue power and decision-making away from external agencies; it has been used for data collection and for interactive analysis. But ‘more often than not, people are asked or dragged into participating in operations of no interest to them, in the very name of participation’ (Rainha 1992).

In conventional rural development, participation has often centred on encouraging local people to sell their labour in return for food, cash, or materials. Yet these material incentives distort perceptions, create dependencies, and give the misleading impression that local people are supportive of externally-driven initiatives. This paternalism then undermines sustainability goals and produces results which do not persist once the project ceases. As little effort is made to build local skills, in most cases the people have no stake in maintaining structures or practices once the flow of incentives stops.

5.1 Functional People participate by forming groups to meet predetermined objectives related to the project, which can involve the development or promotion of externally initiated social organization. Such involvement does not tend to be at early stages of project cycles of planning, but rather after major decisions have been made. These institutions tend to be dependent on external initiators and facilitators, and may become self-dependent.

5.2 Interactive People participate in joint analysis which leads to action plans and the formation of new local institutions or the strengthening of existing ones. It tends to involve interdisciplinary methodologies that seek multiple perspectives and make use of systematic and structured learning processes. These groups take control over local decisions, and so people have a stake in maintaining structures or practices.

5.3 Mobilization People participate by taking initiatives independent of external institutions to change systems. Such self-initiated mobilization and collective action may or may not challenge existing inequitable distributions of wealth and power.

Table 1: A typology of participation: how people participate in development programmes and projects

<table>
<thead>
<tr>
<th>Typology</th>
<th>Components of Each Type</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Passive Participation</td>
<td>People participate by being told what is going to happen or has already happened. It is an unilateral announcement by an administration or project management without any listening to people’s responses. The information being shared belongs only to external professionals.</td>
</tr>
<tr>
<td>2 Participation in Information Giving</td>
<td>People participate by answering questions posed by extractive researchers using questionnaires or similar approaches. People do not have an opportunity to influence proceedings, as the findings of the research are neither shared nor checked for accuracy.</td>
</tr>
<tr>
<td>3 Participation by Consultation</td>
<td>People participate by being consulted, and external agents listen to views. These external agents define both problems and solutions, and may modify these in the light of people’s responses. Such a consultative process does not concede any share in decision making, and professionals are under no obligation to take on board people’s views.</td>
</tr>
<tr>
<td>4 Participation for Material Incentives</td>
<td>People participate by providing resources, for example labour, in return for food, cash, or other material incentives. Much on-farm research falls in this category, as farmers provide the fields but are not involved in the experimentation or the process of learning. It is very common to see this called participation, yet people have no stake in prolonging activities when the incentives end.</td>
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<td>People participate by taking initiatives independent of external institutions to change systems. Such self-initiated mobilization and collective action may or may not challenge existing inequitable distributions of wealth and power.</td>
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Strictly speaking the term ‘questionnaire’ applies only to a form that is filled in by the respondent. Where an enumerator is employed to ask the questions and fill in the answers - as with development surveys in the Third World - the form is actually a ‘schedule’. Usage has by now sanctioned the use of ‘questionnaire’ for both types of form, so this term is used here to avoid confusion (see Gill 1993).

6 PRINCIPLES OF THE SYSTEMS OF PARTICIPATORY INQUIRY

To the wider body of development programmes, projects and initiatives, these systems of inquiry represent a significant departure from standard practice. Some of the changes underway are remarkable. In many government and non-government...
institutions, extractive research is being superseded by investigation and analysis by local people themselves. Methods are being used not just for local people to understand, but also for people's own analysis of their own conditions (Chambers 1992a, 1992b; Pretty and Chambers 1993; RRA Notes, passim).

The interactive involvement of people in many differing institutional contexts has promoted innovation and ownership, and there are many variations in the way that systems of inquiry have been put together. However, there are important common principles. These are as follows:

- A defined methodology and systemic learning process - the focus is on cumulative learning by all the participants and, given the nature of these approaches as systems of inquiry, their use has to be participative.
- Multiple perspectives - a central objective is to seek diversity, rather than characteristic complexity in terms of average values. The assumption is that different individuals and groups make different evaluations of situations, which lead to different actions. All views of activity or purpose are heavy with interpretation, bias and prejudice, and this implies that there are multiple possible descriptions of any real-world activity.
- Group inquiry process - all involve the recognition that the complexity of the world will only be revealed through group inquiry. This implies there are multiple possible mixes of investigators, namely those from different disciplines, from different sectors, and from outsiders and insiders (local people).
- Context specific - the approaches are flexible enough to be adapted to suit each new set of conditions and actors, and so there are multiple variants.
- Facilitating experts and stakeholders - the methodology is concerned with the transformation of existing activities to try to bring about changes which people in the situation regard as improvements. The role of the 'expert' is best thought of as helping people in their situation carry out their own study and so achieve something. These facilitating experts may be stakeholders themselves.
- Leading to sustained action - the inquiry process leads to debate about change, including confronting of the constructions of others people, and this debate changes the perceptions of the actors and the readiness to contemplate action. This leads to more sophisticated and informed constructions of the world. The debate and/or analysis both defines changes which would bring about improvement and seeks to motivate people to take action to implement the defined changes. Action is agreed, and implementable changes will therefore represent an accommodation between the different conflicting views. This action includes local institution building or strengthening, so increasing the capacity of people to initiate action on their own.

7 CRITERIA FOR JUDGING INFORMATION

These criteria cannot be used to judge the quality of findings arising out of the use of alternative systems of inquiry. What is needed are entirely alternative criteria to establish trustworthiness, or what some call 'goodness'.

Trustworthiness criteria were first developed by Guba (1981) to judge whether or not any given inquiry was methodologically sound. Four alternative, but parallel, criteria were developed: credibility, transferability, dependability and confirmability. But these had their foundation in concerns indigenous to the conventional, or positivist, paradigm (Lincoln 1990). To distinguish between elements of inquiry that were not derived from the conventional paradigm, further 'authenticity' criteria have been suggested to help in judging the impact of the process of inquiry on the people involved (Lincoln 1990). Have people been changed by the process? Have they a heightened sense of their own constructed realities? Do they have an increased awareness and appreciation of the constructions of other stakeholders? To what extent did the investigation prompt action?

Drawing on these, and other suggestions for 'goodness' criteria (Marshall 1990; Smith 1990), a set of 12 criteria for establishing trustworthiness can be identified (Table 2). These criteria can be used to judge information, just as statistical analyses provide the grounds for judgement in positivist or conventional science. An application of an

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<td>2. Persistent and parallel observation;</td>
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<td>3. Triangulation of sources, methods and investigators;</td>
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<td>4. Analysis and expression of difference;</td>
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<td>5. Negative case analysis;</td>
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<tr>
<td>6. Peer checking;</td>
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<tr>
<td>7. Participant checking;</td>
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<td>8. Reports with working hypotheses, contextual descriptions and</td>
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<tr>
<td>visualizations;</td>
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<td>9. Parallel investigations and team communications;</td>
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<td>10. Reflexive journals;</td>
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<tr>
<td>11. Inquiry audit;</td>
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<tr>
<td>12. Impact on stakeholders' capacity to know and act.</td>
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</tbody>
</table>
alternative system of inquiry without, for example, 'triangulation of sources, methods and investigators' and participant checking of the constructed outputs, should be judged as untrustworthy.

However, it should be noted that it will never be possible to be certain about the trustworthiness of evidence. Certainty is only possible if we accept the possible to be certain about the trustworthiness of evidence.

It should be noted that it will never be possible to be certain about the trustworthiness of evidence. However, if we accept the possible to be certain about the trustworthiness of evidence, it will never be possible to be certain about the trustworthiness of evidence. Knowing this should make it possible for any user, be they reader of a report or policy maker using the information to make a decision, also to make a judgement on whether they trust the findings. In this context, it becomes possible to state that 'data no longer speak for themselves'.

8 A FRAMEWORK FOR JUDGING TRUSTWORTHINESS

8.1 Prolonged and/or intense engagement between the various sectors
This is primarily to build trust and rapport, to learn the particulars of the context, and to keep the investigator(s) open to multiple influences. Trust takes a long time to build, but can be destroyed overnight. It is built by demonstrating to participants that their confidences will not be used against them; and by confirming that participants will have an input into, and so influence, the inquiry process.

8.2 Persistent and parallel observation
This is for understanding both a phenomenon and its context. Observation increases the depth of understanding and the breadth of perspectives and realities encountered.

8.3 Triangulation by multiple sources, methods and investigators
This is to cross-check information and increase the range of different peoples' realities encountered. Multiple sources implies multiple copies of one type of source (e.g. interviews with farmers from one social group); or different sources of the same information (e.g. interviews with men, women and children about the same topic). Multiple methods implies comparing the results derived from a range of methods; once a proposition has been confirmed by one or more methods, the uncertainty of its interpretation is greatly reduced. Multiple investigators implies having teams with a diversity of personal, professional and disciplinary backgrounds, increasing the range of perspectives and biases imposed on the inquiry.

8.4 Analysis and expression of difference
This is to ensure that a wide range of different actors are involved in the analysis, and that their perspectives and realities are accurately represented. These perspectives will not necessarily be resolved to suggest a single consensus.

8.5 Negative case analysis
This is the process of sequential revision of hypotheses as insight grows, with the objective of revision until one hypothesis accounts for all known cases without exception. Negative case analysis is qualitative research what statistical analysis is to quantitative analysis. Qualitative inquiry uses error to revise the hypothesis, whilst quantitative inquiry uses error variance to test the hypothesis, and so accept or reject it. In practice, accounting for all known exceptions is rarely achieved.

8.6 Peer checking
Peer or colleague checking involves periodical meetings with peers not directly involved in the inquiry process. The objective is for peers to explore aspects of the inquiry that might still be implicit in the minds of the team members or lone investigator. This helps to keep the investigators honest, by exposing them to searching questions so as to probe biases and explore meanings.

8.7 Participant checking
This is to test the data, interpretations and conclusions with people with whom the original information was constructed. If the reconstructions by the inquirers are recognized by these groups of participants as adequate representations of their own (and multiple) realities, then the credibility of the findings is established. These participant checks occur both during the course of interactive analysis and inquiry, and formally in presentation meetings towards the end of the inquiry. Without participant checks, investigators can make no claims that they are representing participants' views. Participants have the opportunity to investigate discrepancies and challenge findings, to volunteer additional information, and to hear a summary of what the investigators have learned and constructed.

8.8 Reports with working hypotheses, contextual descriptions and visualizations
Whilst the conventional investigator expects to make relatively precise statements about external validity, expressed, say, in the form of statistical confidence limits, the participatory inquiry team sets out working hypotheses with detailed descriptions of the contexts in which they were formulated. These 'thick' descriptions include visualizations as well as direct quotations capturing peoples' personal perspectives and experiences.

8.9 Parallel investigations and team communications
These are essential for dependability as they demonstrate replication. If sub-groups of the same team proceed with investigations in parallel using the same system of inquiry, and come up with the same or similar findings, then we can depend on these findings. For parallel investigations to succeed, there must be good communication between team members. This requires regular formal meetings and established group norms of behaviour.

8.10 Reflexive journals
These are diaries individuals keep on a daily basis to record a variety of information about themselves. As all individuals involved in the process are recognized as being central to the process, their feelings and decisions should also be recorded. These may not be revealed to others, but they are essential in helping, at a later stage, to remember the immediate reasons for methodological decisions and interpretations.

8.11 Inquiry audit
The inquiry team should be able to provide sufficient information for a disinterested person to examine the processes and product in such a way as to confirm that the findings are not a figment of their imaginations. The inquiry audit is conducted to establish the fairness of the representations by examining the process of inquiry and the end product. The inquiry audit then can attest that the end products are supported by the data and are internally coherent. The inquiry audit can be conducted in a workshop context or by an external, and so disinterested, person.

8.12 Impact on stakeholders' capacity to know and act
It is important to be able to demonstrate that the investigation or study has had an impact. The participants should have a heightened sense of their own constructed realities, as well as an increased awareness and appreciation of the complexities of other people. There should be enhanced sophistication of the stakeholders, as well as an increased understanding of the range of possible avenues of action. Not only should the inquiry lead to action, but the report itself should also prompt action on the part of readers who have not been directly involved.

9 TOWARDS A NEW PROFESSIONALISM
The elements of these alternative systems of inquiry, the principles, methods and trustworthiness criteria, will not be sufficient to provoke widespread change in institutions and individuals. The methods themselves are not neutral of historical, social and political context. They may be used to lead to genuine local capacity building and organization. They may also be used to transform local perspectives into forms more acceptable to outsiders.

These systems of inquiry are centred on approaches that are alternatives to positivism. They are more likely to generate information agreed by various interest groups, which is less likely to be proven wrong in the long run. For these reasons, it is better for decision-makers, as the needs and values are explicit: inquiry that purports to be value-free is probably the most insidious form of inquiry available because its inherent but unexamined values influence policy without ever being scrutinized themselves (Beardsley 1980). However, there will never be any final, correct answers. There is no absolute trustworthiness. There is only trustworthiness at a given time in a given context. Furthermore, because all the actors can be said to trust a particular body of information at a particular time, this does not mean they will always do so. As external conditions change, so their values and criteria for judging will also change. The information may then come to be judged as untrustworthy, while various people no longer having confidence in it.
wards a sustainable agriculture. This will occur when we can find ways of developing both new institutional arrangements and alliances to encourage wider involvement, and a new professionalism with greater emphasis on the process of learning (and unlearning) itself.

The central concept of sustainable agriculture is that it must ensphere new ways of learning about the world. Learning should not be confused with teaching. Teaching implies the transfer of knowledge from someone who knows to someone who does not know. Teaching is the normal mode of educational curricula, and is also central to many organizational structures (Isson 1990; Arygri 1991; Russell and Isson 1991; Bawden 1992; Pretty and Chambers 1993). Universities and other professional institutions reinforce the teaching paradigm by giving the impression that they are custodians of knowledge which can be dispensed or given (usually by lecture) to a recipient (a student).

Professionals who are to work for a sustainable agriculture must be able to let go of certain ideas and adopt new ones as situations and they themselves change: 'No one learns who claims to know already'. But, the existing policy culture 'gives credibility to opinion only when it is defined in scientific language, which may not be adequate to describe human and social experience, and this has alienated people. This is not usually the fault of scientists themselves: it is a function of the form of science, including social science, that has been allowed to dominate' (Wynne and Mayer 1993). A move from a teaching to a learning style has profound implications for agricultural development institutions. The focus is less on what we learn, and more on how we learn and with whom. The pedagogic goals become self-strengthening for people and groups through self-learning and self-teaching, and the role and action of the researcher is very much a part of the interactions being studied' (Russell and Isson 1991). Systems of participatory inquiry, therefore, imply new roles for development professionals, and these all require a new professionalism with new concepts, values, methods and behaviour (Pretty and Chambers 1993).

It is clearly time to let go of the old paradigm of positivism for science, and embrace the new alternatives. But for the pioneers, this will be extraordinarily difficult. As Richard Bawden (1991) has put it: 'this is profoundly difficult... I am quite aware that I risk fierce controversies, international name-calling, and dissolutions of old friendships'. It is only when some of these new professional norms and practices are in place that widespread change in the livelihoods of farmers and their natural environments is likely to be achieved.

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Agrarian Questions
The politics of farming anno 1995

International congress to be held in Wageningen, the Netherlands
May 22-24, 1995

Worldwide, a wide variety of interrelated agricultural systems, from low output to highly productive farming is running against the borders of the exploitation of human labour, natural resources and the environment. Technological and market regulation have failed to resolve these problems. The political economy paradigm needs refinement and the advanced integration of the farming sector calls for a broad perspective.

The organising committee of the Agrarian Questions congress calls for papers that clarify current agrarian struggles and the social processes generating them, and how one might act upon them.

The subthemes of the congress are:
1) The social and technical regulation of agricultural production;
2) Power and the agricultural labour process;
3) Agrarian transformation and environmental degradation;
4) Patterns of consumption and agrarian development.

Deadlines:
Pre-registration as soon as possible; Abstracts before June 30, 1994; Registration before December 31, 1994; Full papers January 31, 1995.

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