Growing Diversity International Workshop

Towards Democratic Control and Participation in the Management of Agricultural Biodiversity[1]

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Summary

"Community based conservation" and "peoples' participation" have become part of the conventional rhetoric and more attention is being paid to this approach on the ground by international and national organisations. There are now several examples of projects which involve local communities in conserving and sustaining biodiversity important for food, agriculture, health, local livelihoods and culture in a variety of settings.

However, community based or local management of agricultural biodiversity remains a relatively isolated practice. Its spread to more people and places is constrained by at least three interrelated and mutually reinforcing trends:

1. public sector and civil society organisations that understand "participatory" development in ways that cede little or no devolution of power to local communities engaged in conservation and development
2. the emerging structure, organisation and reach of the global food system that yields disproportionate benefits to corporations and their shareholders.
3. development options that increasingly shift economic power and control over policies, resources and institutions from local citizens to global corporations.

This paper identifies some of the reforms needed to encourage democratic participation and more genuine local control in the management of agricultural biodiversity. Emphasis is placed on strengthening diversity, decentralisation and democracy through the regeneration of more localised food systems and economies.

Introduction

There are relatively few examples of local management of agricultural biodiversity[2] based on indigenous knowledge and rule making institutions. The "Growing Diversity" initiative has

[1] Paper for comments,- the International Workshop on the Local management of Agricultural Biodiversity, May 9-19, Rio Branco, Acre, Brazil.

[2] Agricultural biodiversity refers to the variety and variability of animals, plants, and micro-organisms on earth that are important to food and agriculture which result from the interaction between the environment, genetic resources and the management systems and practices used by people. It takes into account not only genetic, species and agroecosystem diversity and the different ways land and water resources are used for production, but also cultural diversity, which influences human interactions at all levels. It has spatial, temporal and scale dimensions. It comprises the diversity of genetic resources (varieties, breeds, etc.) and species used directly or indirectly for food and agriculture (including crops, livestock, forestry and fisheries) for the production of food, fodder, fibre, fuel and pharmaceuticals, the diversity of species that support production (soil biota, pollinators, predators, etc.) and those in the wider environment that support agro-ecosystems (agricultural, pastoral, forest and aquatic), as well as the diversity of the agro-ecosystems themselves. The definition thus includes

brought together some of the more innovative examples of decentralised management of biodiversity important for food and agriculture (see www.grain.org/gd).

As participants of the Growing Diversity International Workshop share their experiences, there are questions about the scaling up and future of these localised initiatives. How can the local management of agricultural biodiversity be mainstreamed in fisheries, farming, pastoralism, forestry, “wildlife” management, land use and more generally in rural development? Under what conditions can local control and democratic participation in the management of agricultural biodiversity become accepted social norms and practices?

This paper is a contribution to the debate. Issues of local control and participation are discussed in terms of the wider systems in which the management of agricultural biodiversity is embedded: food systems[3], livelihoods and participatory development options.

Meanings of Participatory Development

Despite repeated calls for peoples' participation in conservation and development over the last thirty years, the term "participation" is generally interpreted in ways which cede no control to local people. It is rare for professionals (agronomists, foresters, plant breeders, protected area managers, land use planners...) to relinquish control over key decisions on the design, management and evaluation of local or community based management of agricultural biodiversity. Participation is still largely seen as a means to achieve externally-desirable goals. Whilst recognising the need for peoples' participation, many normal professionals place clear limits on the form and degree of participation that they tolerate in local contexts.

In most situations, the main actors are normal professionals who are concerned not just with research, but also with action. Normal professionals are found in research institutes, universities and several non governmental organisations (NGOs) as well as in international and national organisations where most of them work in specialised departments or sectors (forestry, fisheries, agriculture, health, wildlife conservation, administration...). The thinking, values, methods and behaviour dominant in their profession or discipline tends to be stable and conservative. Lastly, normal professionalism generally *"values and rewards "first" biases which are urban, industrial, high technology, male, quantifying, and concerned with things and with the needs and interests of the rich"* (Chambers, 1993).

However, the concept of “participatory development” has gained new vigour over the last two decades, -partly as a result of the evident failures of top down, standardised development, the retreat of the State in service and technology delivery, and the emphasis on market based solutions in a globalised economy. But whilst the words are the same, the meanings given to “participation” and “participatory development” vary considerably.

Three broad visions and understandings of “participatory development” are summarised in table 1. As we think about the local management of agricultural biodiversity, it is important to bear in mind the similarities and differences in these approaches to participatory development. The divergences shown in table 1 primarily relate to human values and are significant because they highlight the ideological framework which actors consciously or unconsciously adopt in

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domesticated, semi-domesticated, manipulated or “wild”, with no clear cut demarcation between natural and managed plant and animal populations.

[3] Agricultural biodiversity is embedded in several larger systems,- in particular food systems. Food systems include not just the production aspects of food and fiber but also the preparation of agricultural inputs, processing, distribution, access, use, food recycling and waste. Food chains from the point where food/fibres originate to where they are consumed and disposed of are important components of the food system.

their work. Human values and subjectivity enter the theory and practice of participatory development by:

- defining what to think about and how to think about it
- informing the choice of problems/options and the way to tackle/deal with them
- setting limits on the thinking and imagination of scientists, policy makers, donors as well as NGO staff and local actors.

Table 1. Participatory Development Paradigms

	Business as usual	**Technical fix,- the market is the solution**	**Structural change**
Goal	making our projects more efficient	making our projects more effective	multiple economic, ecological and social goals
Target	singling out 'target groups' as objects of development projects	reforming policies and institutions to allow for regulation by the market	multiple linkages with diverse actors; broad coalitions and alliances for social change
Principal methods for analysis and planning	logframes, Rapid Rural Appraisals (RRA), questionnaires, beneficiary assessment, cost-benefit analysis	logframes, RRA, participatory Rural Appraisals (PRA), cost benefit analysis, market surveys	Participatory Learning and Action (PLA)and complementary participatory methodologies, deliberative democracy, advocacy, coalition building, direct action
Dominant role and relationships	enlightened technocrat and benevolent paternalism	provider of market based solutions	genuine partnerships and power sharing
Boundary conditions	broader context unacknowledged - everything remains as is: property rights, land tenure, social relations, decision-making structures & processes	broader context unaddressed: everything beyond the intervention remains as is; economy and markets treated as given, but subject to some intervention	explicitly concerned with changing the broader context of people's lives: social and ecological goals, many futures possible
Development goal	improved products and services	more kinds of interventions mediated through the market	minimise the need for external intervention, self reliance
Diversity (social and ecological)	low	low to medium	high

The organisations involved in these approaches to participatory development are, to varying degrees, aware that they need to change and move away from top down, standardised practices. The main reasons given for professional re-orientation and organisational transformation vary and are not necessarily the same for all actors. They include the need for flexibility and cost effectiveness, the need to respond adaptively to dynamic change and to a diversity of social and ecological conditions, the recognition that satisfiers of fundamental human needs differ in time and place[4], and being able to deal with open ended uncertainties. As a

[4] A definition of the 'good life' implies different ways of satisfying fundamental human needs. Max-Neef and his colleagues have identified nine fundamental human needs, namely: *subsistence* (for example, health, food, shelter, clothing); *protection* (care, solidarity, work, etc.); *affection* (self-esteem, love, care, solidarity, and so on); *understanding* (among others: study, learning, analysis); *participation* (responsibilities, sharing of rights and duties); *leisure/idleness* (curiosity, imagination, games, relaxation, fun); *creation* (including intuition, imagination, work, curiosity); *identify* (sense of belonging, differentiation, self-esteem, and so on), *freedom* (autonomy, self-esteem, self-determination, equality). (Max-Neef 1989).

result, both public sector and private sector organisations involved in the management of biodiversity are challenged to shift from being implementers to enablers of local planning and action.

In practice however, three different patterns of organisational change or transformation are emerging:

1. Privatisation. This strategy seeks to replace public provision with market based, private provision of services and technologies (e.g. improved seeds and livestock; corporate services and know how for the management of forests, fisheries and protected areas). Supporters of this approach to organisational change believe that private contractors can often give a more efficient service because of the nature of competition within the private sector and superior resource management capabilities.
2. Public service reform. This approach seeks to preserve the notion of public provision but argues for the radical reform of the way services and technologies are designed and delivered by bureaucracies. This argument has also been applied to many large NGOs who need to shift their approach to conservation and development. Supporters of this approach either give primary emphasis to enhancing the *responsiveness* of public sector/NGO service provision or to the *democratisation* of government/NGO service and technology provision.
    i) The technology/service responsiveness approach is essentially concerned with the reform of government and NGO bodies as productive and administrative systems. Key organising metaphors here are *consumer* or *client driven*. This approach typically emphasises listening to the consumer/client, becoming more accessible to the consumer/client and speaking to the consumer/client.
    ii) The technology/service democracy approach views government bureaucracies and NGOs as political systems. Key organising metaphors in this approach are *citizens* and *collective action*. It seeks reforms through changes in power relations and in who controls the planning, design, delivery, monitoring and evaluation of technologies and services.

Both the “service/technology responsiveness” and “democratisation” approaches emphasise the need for bureaucracies to change to more people centred, process oriented and learning organisations. But despite these similarities, there are fundamental differences in the framing assumptions, underlying values and political vision embodied in these contrasting approaches to change. The “service/technology responsiveness” approach resonates with visions of participatory development based on a mix of business as usual and technical fix /market based solutions. And the “democratisation” route fits within a participatory development paradigm that emphasises structural change and many possible futures (see Table 1).

Methods for deliberative democracy and citizen empowerment

Seven different types of participation are shown in Table 2. The implication of this typology is that the *meaning* of participation should be clearly spelt out in all community based conservation programmes. If the objective of conservation is to achieve sustainable and effective management of biological resources, then nothing less than functional participation will suffice. This implies the use of participatory methodologies by staff of NGOs and government agencies. Participatory Rural Appraisal (PRA) describes one group of a growing family of methods ands ways of working that enable local people to share, enhance and analyse their knowledge of life and conditions, to plan and act.

Deliberative and Inclusive Processes (DIPs) are also increasingly being used in the North and the South to give the historically excluded a voice in decisions. Some of these methods and processes include citizens' juries, consensus conferences, scenario workshops, multi-criteria mapping, participatory learning and action (PLA), visioning exercises and deliberative polling. Many of these 'participatory' processes have been developed in an attempt to supplement conventional democratic processes, moving beyond traditional forms of consultation (Pimbert and Wakeford, 2001). These approaches, when facilitated by outsiders, involve self critical awareness of their own attitudes and behaviour towards local people. The implementation of codes of conduct and research agreements between local communities and outsiders can enhance reciprocal accountability by spelling out the roles, rights, responsibilities and distribution of costs and benefits among actors (Box 1).

Table 2. A typology of participation

Typology	Components of Each Type
1. *Passive Participation*	People participate by being told what is going to happen or has already happened. It is unilateral announcement by an administration or project management without any listening to people's responses. The information being shared belongs only to external professionals.
2. *Participation in Information Giving*	People participate by answering questions posed by extractive researchers and project managers using questionnaire surveys or similar approaches. People do not have the opportunity to influence proceedings, as the findings of the research or project design are neither shared nor checked for accuracy.
3. *Participation by Consultation*	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 peoples's views.
4. *Participation for Material Incentives*	People participate by providing resources, for example labour, in return for food, cash or other material incentives. Much in-situ research and bioprospecting falls in this category, as rural people 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.
5. *Functional Participation*	People participate by forming groups to meet predetermined objectives related to the project, which can involve the development or promotion of externally initiated social organisation. Such involvement does not tend to be at early stages of project cycles or planning, but rather after major decisions have been made. These institutions tend to be dependent on external initiators and facilitators, but may become self-dependent.
6. *Interactive Participation*	People participate in joint analysis, which leads to action plans and the formation of new local groups 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.
7. *Self-Mobilization*	People participate by taking initiatives independent of external institutions to change systems. Such self-initiated mobilization and collective action may of may not challenge existing inequitable distributions of wealth and power.

(modified from Pretty, 1994)

Whilst these methods and processes have at times been misused or abused in the rush to scale up and spread the new innovations, these approaches nevertheless offer much potential to expand the active involvement of citizens in shaping the decisions that affect their lives. For example, citizen jury and scenario workshop methods were recently used in India to allow small farmers and indigenous peoples to decide on food and farming futures for Andhra Pradesh (Box 2).

Box 1. Codes of conduct for outside agencies and professionals

Some indigenous and local communities have spelt out how outside organisations and professionals interested in the biodiversity on their lands should behave, and what their rights and obligations are towards local people. For example, the Kuna of Panama and the Inuit Tapirisat of Canada have established guidelines to ensure that research carried out on their territories is controlled by the local communities and based on their prior informed consent. The Kuna produced an information manual which includes guidelines for scientific researchers as well as a presentation of Kuna objectives with respect to forest management, conservation of biological and cultural wealth, scientific collaboration and research priorities. Such Community Controlled Research (CCR) may allow indigenous peoples to better control access and use of, for example, ethnobotanical knowledge which is increasingly targeted by bioprospectors working for pharmaceutical companies (Posey et al, 1995).

More generally, there is a clear need for a legally binding code conduct to ensure that outside professionals are more accountable to local communities. The adoption of a policy of reciprocal accountability (governments <=.> Donor <=> local communities) by conservation agencies could potentially open spaces to do things differently in the future. For example, the concept of downward accountability implies shifting more direct control over decision making and funds to local communities. Local recipients of the funds could then decide what this money should be spent on and by whom. The donors legitimate demands for accountability could still be met if accountability were framed in terms of long term process objectives that seek to reconcile conservation with sustainable local livelihoods. Locally negotiated agreements and the long term success of community based management of agricultural biodiversity partly depend on the development and enforcement of such codes of conducts.

Box 2. Prajateerpu: Local Visions on the Future of Food and Farming in Andhra Pradesh, India

Prajateerpu, a citizens jury/scenario workshop on food and farming futures in the state of Andhra Pradesh (AP), was an exercise in deliberative democracy involving marginal farmers and other citizens from all three regions of the state. The citizens' jury was made up of representatives of small and marginal farmers, small traders, food processors and consumers. Prajateerpu was jointly organised by the International Institute for Environment and Development (IIED), the Institute of Development Studies (IDS), the Andhra Pradesh Coalition in Defence of Diversity, The University of Hyderabad, AP and the all-India National Biodiversity Strategy and Action Plan (NBSAP). The jury hearings took place in Medak District, Andhra Pradesh, on June 25-July 1, 2001. Jury members also included indigenous (known in India as '*adivasi*') people. Over two-thirds of jury members were women. The jury members was presented with three different scenarios. Each was advocated by key opinion-formers who attempted to show the logic behind the scenario. It was up to the jury to decide which of the three scenarios is most likely to provide them with the best opportunities to enhance their livelihoods, food security and environment 20 years from now.

Vision 1: Vision 2020. This scenario has been put forward by Andhra Pradesh's Chief Minister, backed by a World Bank loan. It proposes to consolidate small farms and rapidly increase mechanisation and modernisation. Production enhancing technologies such as genetic modification will be introduced in farming and food processing, reducing the number of people on the land from 70% to 40% by 2020.

Vision 2: An export-based cash crop model of organic production. This vision is based on proposals from the International Forum for Organic Agriculture (IFOAM) and the International Trade Centre (UNCTAD/WTO) for environmentally friendly farming linked to national and international markets. This vision is also increasingly driven by the demand of supermarkets in the North to have a cheap supply of organic produce and comply with new eco-labelling standards.

Vision 3: Localised food systems. A future scenario based on increased self-reliance for rural communities, low external input agriculture, the re-localisation of food production, markets and local economies, with long distance trade in goods that are surplus to production or not produced locally.

The jury/scenario workshop process was overseen by an independent panel, a group of external observers drawn from a variety of interest groups. It was their role to ensure that each Food Future was presented in a fair and unprejudiced way, and that the process was trustworthy and not captured by any interest group.

The key conclusions reached by the jury – their 'vision' – included a desire for:

- Food and farming for self reliance and community control over resources
- Maintaining healthy soils, diverse crops, trees and livestock, and building on indigenous knowledge, practical skills and local institutions.

And opposition to:

- The proposed reduction of those making their living from the land from 70%-40% in Andhra Pradesh
- Land consolidation and displacement of rural people
- Contract farming
- Labour-displacing mechanisation
- GM crops - including Vitamin A rice & Bt cotton
- Loss of control over medicinal plants, including their export

Prajateerpu shows how the poor and marginalised can be included in the policy process. The jury outcomes will hopefully encourage more public deliberation and pluralism in the framing and implementation of policies on food and agriculture in Andhra Pradesh, thus contributing to democratic governance.

Source: Pimbert and Wakeford, 2002; http://www.iied.org

Enabling policies, organisations and professional practice

Decentralisation policies such as the Law of Popular Participation in Bolivia generally offer a more enabling context for deliberative and inclusive processes in decision making. The democratic potential of decentralisation is usually greatest when it is linked with the institutionalisation of local level popular participation and community mobilisation. These dynamics can be complementary in encouraging more widespread participation, deliberation and inclusion, -one working from the top down and the other from the bottom up. Similarly, the participatory budgeting pioneered by several municipalities in Brazil offers a model of how citizens can more directly influence municipal spending,- funds for whom, on what and where (Box 3). By fostering more debate and oversight over public spending, participatory budgeting can enhance trust between citizens and local government. As such it is an important institutional innovation for more deliberative forms of democracy and citizen empowerment in both urban and rural contexts. The potential of participatory budgeting in community based or local management of agricultural biodiversity needs to be more fully explored.

Box 3. Participatory budgeting in Brazil

Municipal governments elected to power in several Brazilian cities in the 1990s introduced a participatory budget. This basically allowed the views and priorities of citizens to be incorporated in the design of annual budgets and public spending priorities. Participation is usually promoted by a team selected from the municipality. The team has direct contacts with the population and also carries out information campaigns to raise the awareness of citizens about their right to participate in the design of the budget. The team organises meetings in the different neighbourhoods to facilitate people's selection of their own development priorities and representatives. The citizens' delegates are included in the process of budget design and approval in order to guarantee that the demands of the localities/neighbourhoods are taken into account. The methodology for incorporating participation into the budget planning is evaluated and updated every year.

The government invests in projects which communities have identified as their priority needs. Given a citizen's right to have information and make demands on the State, government agencies have to consider the feasibility of any request. If a citizen request is judged non feasible, the state agency has to demonstrate why this is so.

In several municipalities, popular participation in this initiative has exceeded the government's

expectations and has increased annually. Participatory budgeting has changed public spending priorities, reducing inequalities in places. The improvement of the quality of life in some of the municipalities has been evident, as it is the first time that the local government has taken into account the needs of the poorest sectors of the population. Participatory budgeting has not only meant a much greater involvement of citizens and community organisations in determining priorities but also a more transparent and accountable form of government.

However, decentralisation does not always equate with increased democratic participation. It does not necessarily break power structures or lead to a redistribution of resources, but may only result in de-concentration with a transfer of power to another level of the bureaucracy.

Widespread citizen participation and use of DIPs in policy processes and in the design of technologies and services does not mean that government bureaucracies and other organisations (private, NGOs…) have no role. Agronomists, foresters, health professionals, engineers, plant breeders, land use planners and other professionals all have specialist knowledge that can usefully feed into citizen deliberations and more inclusive forms of participation. But the participatory process, - and the political negotiation over what constitutes valid knowledge in a particular context (see Box 4)-, deeply challenge bureaucracies and professionals to assume different roles and responsibilities. In particular, existing bureaucracies and professionals will often need to shift from being project implementers and deliverers of standard services and technologies to new roles that facilitate local people's analysis, deliberations, planning, action, monitoring and evaluation. The whole process should strengthen local groups and institutions, so enhancing the capacity of citizens to take action on their own. This implies changes in organisational cultures and the adoption of new professional skills and values.

Box 4. Knowledge and power

"Contests for knowledge are contests for power. For nearly two centuries that contest has been rigged in favour of scientific knowledge by the established power structures. We should ask why scientific knowledge has acquired the privileged status that it enjoys, why it is that scientists' endeavours are not seen to be on a par with other cultural endeavours, but have come to be singled out as providing the one and only expert route to knowledge and guide to action. We need to confront the question of what kinds of knowledge we want to produce, and recognise that that is at the same time a question about what kinds of power relations we want to support - and what kind of world we want to live in …..A socially responsible science has to be a science that does not allow itself to be set apart from, let alone above, other human endeavours. In our interactions with the world, we are all involved in the production of knowledge about the world - in that sense, there is no single group of experts" (Kamminga, 1995).

However, the adoption of a participatory culture within organisations and changes in professional attitudes and behaviour are unlikely to automatically follow when new methods are adopted or suddenly become fashionable "out there". Many scientists and professionals will need to learn new communication and facilitation skills to usefully engage in citizen juries, scenario workshops, participatory dialogues and other DIPs. The adoption of participatory methodologies calls for a greater emphasis on training in communication rather than technical skills. Outside professionals must learn to work closely with colleagues from different disciplines or sectors, as well as with rural people themselves, including women and children. Judgement and interpersonal skills should be cultivated through the adoption and use of participatory methods. This may imply a significant shift in technique for conventional trainers, since training for participation must itself be participatory and action-based (Chambers, 1992a). One practical implication is that conservation and development agencies set aside time for field experiential learning for their professional staff, so that they, as people, can see, hear, understand that other reality, of local people, and then work to make it count.

But training of agency personnel in participatory principles, concepts and methods must be viewed as part of a larger process of reorienting institutional policies, organisational cultures, procedures, financial management practices, reporting systems, supervisory methods, reward systems and norms (IIED-IDS, 2000). In both government departments and other organisations, the challenge for top and middle management is to design appropriate institutional mechanisms and rewards to encourage the spread of DIPs and other participatory methods within the organisation (see Box 5). Without this support from the top, it is unlikely that deliberative and participatory approaches that enhance citizen capacities and innovation will become core professional activities. They will remain isolated and marginalised within NGOs and government departments responsible for conservation and development programs.

BOX 5. Transforming organisations for deliberative democracy and citizen empowerment

Key actions for reformers working for more accountable organisations (local and national government, NGOs, private sector) include:

- Diversify the governance and the membership of budget allocation committees of public sector planning, services and research institutes to include representatives of diverse citizen groups. Establish procedures to ensure transparency, equity and accountability in the allocation of funds and dissemination of new knowledge
- Encourage shifts from hierarchical and rigidly bureaucratic structures to "flat", flexible and responsive organisations
- Provide capacity building for technical and scientific personnel to foster those participatory skills, attitudes and behaviour needed to learn from citizens (mutual listening, respect, gender sensitivity as well as methods for participatory learning and action)
- Ensure that senior and middle management positions are occupied by competent facilitators of organisational change, with the vision, commitment and ability to reverse gender and other discriminatory biases in the ideologies, disciplines and practices animating an organisation.
- Promote and reward management that is consultative and participatory rather than verticalist and efficiency led. Establish incentive and accountability systems that are equitable for women and men
- Provide incentives and high rewards for staff to experiment, take initiatives and acknowledge errors as a way of learning by doing and engaging with the diverse local realities of citizen's livelihoods in urban and rural contexts
- Redesign practical arrangements, the use of space and time within the workplace to meet the diverse needs of women, men and older staff as well as their new professional obligations to work more closely with citizenss and other actors (time tables, career paths, working hours, provision of paternity and maternity leave, childcare provisions, mini sabbaticals, promotion criteria…)
- Encourage and reward the use of gender disaggregated and socially differentiated local indicators and criteria in monitoring and evaluation as well as in guiding subsequent technical support, policy changes and allocation of scarce resources.

A reality check: where is power concentrated today?

Enabling government policies, organisational change and professional reorientation are all necessary preconditions for the widespread use of participatory methods and DIPs in the social construction of reality *by* and *for* citizens. However, at this time in history the "power to define reality" rests less and less with governments and professionals engaged in planning, service delivery and in the design of technologies to meet human needs for food, health, shelter, energy and culture. Globalisation in its present form induces huge power

differentials as a small minority of economic actors seek more control over markets, technologies, policies and institutions, -imposing a one dimensional homogenising reality on diversity.

The emerging global food system is particularly noteworthy in this connection. The model of the individual farmer dependent on suppliers of off farm inputs and on the corporations that process, distribute and sell food and fibres produced on the farm is spreading beyond the USA. New trade agreements, policies, technologies and services are opening up hitherto remote areas to the global economy. Powerful food processors and distributors in the North are extending contract farming to source food that is produced at lower cost or to better standards (including organic!) in developing countries. At the same time, many of the technologies offered by mainstream agricultural R&D and the private sector are financially expensive and/or inappropriate for diverse and risk prone contexts. Increasingly, farmers everywhere are experiencing the cost-price squeeze that has led many farmers in the USA and Europe to go under or diversify their livelihoods out of desperation. In the process, both the local and global environment are usually degraded through neglect, the use of biodiversity displacing and pollutive technologies or fuel hungry long distance transportation. In sum, the diversity of localised food systems is being collapsed into an integrated, more linear global system based on the principles of comparative advantage, standardisation, geographical division of labour and control by a few large transnational corporations (TNCs) and trade agreements. This has led to an unprecedented concentration of corporate power in the global food system,- particularly at the retailing end of the food chain (Box 6).

Box 6. Concentration of corporate power in the global food and farming sectors

1. *In farm inputs*
Concentration in the input sector proceeded at a very fast pace in the 1990s. Six companies now control 80 percent of *pesticide* sales, down from 12 in 1994. There were US$15 billion of amalgamations in the US *seed* industry alone in the period 1995-2000. From a food systems perspective, input manufacturers – as suppliers to the least profitable sector of the agrifood system, namely farming – are in a strategically weak position. Survival will depend on strategic alliances with processors and retailers around food quality, safety and quality.

2. *In processing*
Partly out of necessity to exercise countervailing economic power to retailers, processing industries are also rapidly consolidating their economic and market power. The economic power of the top eight food multinationals has been compared to that of half of Africa. In 2000, US$87 billion in food industry deals were announced, with Nestlé, Philip Morris and Unilever emerging as the Big Three of global foodmakers. The justification for such massive accumulation of market power is *"to have more clout in the consolidating retailing environment"*. We are likely to see a growth in networks and cross-ownership between food processing and the seed sector, in which the farmer is contractually sandwiched, just a step away from the farmer as renter rather than owner of contracted crops or livestock.

3. *In retailing*
In both the EU and US, it is *retailers* who determine what *food processors* want from *farmers*. Retailers are the point of contact between the majority of OECD citizens and the rural economy. The supermarket sector is most concentrated in the EU, but is also rapidly consolidating in the US. In the nine years since the Earth Summit, US food retailing chains have concentrated dramatically, with the five leading chains moving from 19 percent control of grocery sales to at least 42 percent . Since 1992, global retail has consolidated enormously and three retailers – Carrefour, Ahold and Wal-Mart – have become truly global in their reach. In 2000, these three companies alone had sales (food and non-food) of $300 billion and profits of $8 billion, and employed 1.9 million people. It is predicted that there will be only 10 major global retailers by 2010.

Source: Vorley 2001

Powerful TNCs use a variety of official and unofficial instruments to impose three basic freedoms central to the neo-liberal credo of international competitiveness and comparative

advantage: freedom of investment, freedom of capital flows, freedom of trade in goods and services (George, 2000).

TNCs rely on unofficial, non transparent and discrete bodies to influence governments and opinion makers like

- The European Round Table of Industrialists (ERT) made up of the Chief Executive Officers (CEOs) of 47 of the largest European TNCs. The ERT works closely with the European Commission and individual heads of states, often writing some of the Commission's most important "White Papers" (Europe Ink, 2000)
- The TransAtlantic Business Dialogue (TABD) composed of CEOs from North America and Europe. Through regular dialogues with top politicians and international agency leaders the TABD strongly influences international trade negotiations. It also maintains permanent expert committees on a range of topics including standard-setting for goods and services so that products may be freely sold in all markets.

As an official organisation, the World Trade Organisation (WTO) is particularly responsive to the demands of TNCs for internationally binding rules in favour of total freedom of trade in goods and services. With little or no public oversight, corporations actively shape WTO negotiations on the liberalisation of trade on goods, agricultural products and intellectual property. Areas such as health, education, culture, the environment, and energy are also corporate targets under the emerging General Agreement on Trade in Services. The decisions of the WTO's "Dispute Resolution Mechanism" (panels of trade experts, meeting behind closed doors) are enforceable through sanctions and apply to all 136 member-countries, both developed and developing. This is where WTO's greatest power lies: during the first four years of its existence, the rulings of the dispute settlement body have generally upheld corporate interests over those of people and the environment.

Corporate led globalisation is increasingly dis-empowering many more citizens on an unprecedented scale, both in the North and the South. Increasing job losses, fractured livelihoods, economic marginalisation, fear and anxiety about the future are all induced by the drive for comparative advantage, control and international competitiveness *via*:

- Relocations of industry and services, often from countries with higher labour costs and regulatory standards (environmental, working conditions) to countries with lower ones.
- Mergers and acquisitions, with post acquisition rationalisation
- Deployment of new cost and labour saving technologies (computers, robotics, automation, biotechnologies) in the restructuring of manufacturing, agriculture and,- increasingly-, service sectors such as banking, insurance, airlines, accounting, retailing and hotels
- Reductions in public sector spending and privatisation
- Spread of a culture and vision emphasising the inevitability of the neo-liberal agenda,- the public has to accept that There Is No Alternative (TINA syndrome)

These trends are directly or indirectly affecting the livelihoods of people working at different points in the food chain,- in the inputs sector (seeds, fertilisers, credit..), in food and fibre production (fisheries, forests, farming, livestock rearing…), in food processing and distribution, and food retailing (from corner shops and town stores to supermarkets). To different degrees, many of the existing localised food systems and the emerging global food system are being restructured through these processes.

Transformation for deliberative democracy and citizen empowerment

It is not enough to focus on a re-invigorated *political* democracy to mainstream local control and participation in the management of agricultural biodiversity. For sure, an expansion of *political* democracy to include more people and places in shaping the policy process, technologies and

institutions is clearly important and necessary. But an analysis of how power is increasingly exercised and mediated today suggests that the issue of *economic* democracy is fundamental for change. Widening *economic* democracy is now a key overarching condition for the mainstreaming of participation and deliberative democracy in the management of biodiversity important for food and agriculture.

Questions like *who* manages agricultural biodiversity, *for whom, why, when* and with *what effects* are best answered in the context of food, livelihood and other systems in which agricultural biodiversity is embedded and has meaning. Similarly, the structural reforms needed for more political *and* economic democracy are best seen from a broader food system and livelihood perspective (Pimbert et al, 2002). Some of the reversals, issues, relationships and processes that need to be addressed in this context are summarised in table 3.

Broadly speaking, the blueprint approach is associated with the increasingly global food system based on the principles of uniformity, centralisation, control and coercion. The learning process approach is associated with more localised food systems[5] that are grounded in the principles of diversity, decentralisation and dynamic adaptation. Localised food systems *potentially* offer a more enabling context for democratic participation than the global food system which relies on technologies designed to enhance both profits and *centralised political control* over key links in the food chain.

A radical shift is required from a largely corporate-led development which aims to retain external control on the management and end uses of food systems (including agricultural biodiversity) to an approach which devolves more responsibility and decision making power to local communities and citizens. The whole process should lead to local institution building or strengthening, so enhancing the capacity of people to take action on their own. This implies the adoption of 1. a learning process approach (Table 3), 2. new professional values, participatory methodologies and behaviour, and 3. enabling policies aimed at re-localising food systems and economies. Other defining features of this alternative approach to nurturing and sustaining diversity are listed in Box 7 and further discussed elsewhere (Pimbert and Pretty, 1997; Pimbert, 1999).

Table 3. Sustaining Food Systems, Agricultural Biodiversity and Livelihoods: the contrast between blueprint and learning-process approaches

	Blueprint	**Process**
point of departure	nature's diversity and its potential commercial values	the diversity of both people and nature's values
keywords	strategic planning and trade liberalisation	Participation and local definitions of well being
locus of decision making	centralised, ideas originate in capital city	decentralised, ideas originate in village and municipalities
first steps	data collection and plan	awareness and action
design	static, by experts. Design of technologies and systems reflect and reinforce priorities	evolving, people involved. Broad citizen control on design of

[5] Localised food systems start at the household level and expand to neighbourhood, municipal and regional levels. Food systems include not just the production aspects of food but also processing, distribution, access, use, food recycling and waste.

	of more powerful actors	technologies and systems
main resources	central funds and technicians	local people and their assets
methods, rules	standardised, universal, fixed package	diverse, local, varied basket of choices
analytical assumptions	reductionist (natural and economic science bias)	systems, holistic
management focus	spending budgets, completing projects on time, market performance and shareholders assets	sustained improvement and performance, focus on right to food, health and other indicators of locally defined well being
communication	vertical: orders down, reports up	lateral: mutual learning and sharing experience
evaluation	external, intermittent	internal, continuous
error	buried	embraced
relationship with people	controlling, policing, inducing, motivating, dependency creating. People seen as beneficiaries and consumers	enabling, supporting, empowering. People seen as actors and citizens
associated with	normal professionalism and corporate power	new professionalism and democratic decision making
outputs	1. diversity in conservation, and uniformity in production (agriculture, forestry,...) 2. the empowerment of professionals and corporations	1. diversity as a principle of production and conservation 2. the empowerment of citizens and local communities

(adapted from David Korten and Pimbert, 1999)

Box 7. Growing Diversity through Local Control and Participation

Build on local priorities, the diversity of livelihoods and local definitions of well-being. From the outset, the definition of *what* is to be conserved, *how* it should be managed and *for whom* should be based on interactive dialogue to understand how local livelihoods are constructed and people's own definitions of well being. Participatory, community based conservation starts not with analysis by the powerful and dominant outsiders, but with enabling local people, especially the poor, to conduct theirs and define their own priorities. This methodological orientation is absolutely essential in order to avoid the following problems: professionals projecting their own categories and priorities onto local people; outsiders misunderstanding complex livelihood dynamics; overlooking the importance of locally specific ways of meeting food and other fundamental human needs; not seeing the variability within communities and ecosystems; and economic analyses of biological diversity that focus on global values and foreign exchange elements and very little on the household use values of , for example, "wild" foods and medicines.

Strengthen local rights, security and territory. Denying resource use to local people severely reduces their incentive to conserve it and undermines local livelihood security. Policies for community based conservation clearly need to reaffirm and protect local rights of ownership and use over biological resources,- for ethical as well as practical reasons. Priorities include 1. the reform of protected area categories and land use schemes to embody the concepts of local rights and territory in everyday management practice 2. strengthening local control over the access and end uses of biological resources, knowledge and informal innovations.

Build on local systems of knowledge and management. Local management systems are generally tuned to the needs of local people and often enhance their capacity to adapt to dynamic social and ecological circumstances. Although many of these systems have been abandoned after long periods of success, there remains a great diversity of local systems of knowledge and management which actively maintain biological diversity. Local systems of

knowledge and management are sometimes rooted in religion and the sacred. Sacred groves, for example, are clusters of forest vegetation that are preserved for religious reasons. The network of sacred groves in countries such as India has since time immemorial been the locus and symbol of a way of life in which the highest biological diversity occurs where humans interact with nature.

Build on local institutions and social organisation. Local organisations and institutions are crucial for the conservation and sustainable use of biodiversity. Local groups enforce rules, incentives and penalties for eliciting behaviour conducive to rational and effective resource conservation and use. For as long as people have engaged in livelihoods pursuits, they have worked together on resource management, labour sharing, marketing and many other activities that would be too costly, or impossible, if done alone. Local groups and indigenous institutions have always been important in facilitating collective action and coordinated natural resource management. Indigenous peoples resource management institutions probably offer the most striking evidence of active conservation. These institutions include rules about use of biological resources and acceptable distribution of benefits, definitions of rights and responsibilities, means by which tenure is determined, conflict resolution mechanisms and methods of enforcing rules, cultural sanctions and beliefs. Similarly, the literature on common property resources highlights the importance and resilience of local management systems for biodiversity conservation and local livelihoods. Local institutions regulating economic exchanges and markets are equally important in sustaining localised food systems and diversity. Outside interventions must be designed in such a way that at the end of the project cycle there are local institutions and skills in place to ensure the continuation of localised food systems, without further need for external inputs.

Locally available resources and technologies to meet fundamental human needs. Community based conservation that seeks to provide benefits for local and national economies should give preference to informal innovation systems, reliance on local resources and local satisfiers of human needs. Preference should be given to local technologies by emphasising the opportunities for intensification in the use of available resources. Sustainable and cheaper solutions can often be found when groups or communities are involved in identification of technology needs and then the design and testing of technologies, their adaptation to local conditions and, finally, their extension to others. The potential for intensification of internal resource use without reliance on external inputs and distant markets is enormous.

Negotiated agreements and enabling policies for local action. The success of people-oriented conservation will hinge on promoting socially differentiated goals in which the differing perspectives and priorities of community members, and local communities and external agencies, must be negotiated. Signed co-management agreements between external institutions and local community organisations could promote responsible and accountable interaction, when based on more equitable power and benefit sharing.

Source Pimbert and Pretty, 1997.

In practice, levelling the economic playing field for participation calls for *mutually reinforcing* and radical structural reforms. Among these the following merit closer attention:

- a guaranteed and unconditional minimum citizen income for all. A Citizen Income is based on the notion that the productive capacity of society is the result of all the scientific and technical knowledge accumulated by previous generations. This is a common heritage of humankind and all individuals regardless of origin, age or gender have a right to benefit from it, in the form of an unconditional basic income. An equitable distribution of the existing world product would allow each person on earth to benefit from such a basic income. Apart from offering a measure of security, a Citizen income would allow people to find more time to engage in civic affairs and deliberative processes.

- a reduction of time spent in wage-work and more equitable sharing of jobs. This is about finding ways to a) ensure that wage-work is more evenly distributed so that everyone can invest in other activities, *outside the wage economy* b) defend the rights associated with wage-work c) change the sexual division of labour so that men do as much unpaid work as women, and d) move towards a post-wage society and introducing new rights delinked from wage-work. An important goal here is to free up peoples' time for self chosen and autonomous activities, whilst ensuring freedom from economic necessity (see Gorz, 1997).

- the re-localisation of plural economies that combine both subsistence and market oriented activities. Several mutually reinforcing enabling policies have been identified to bring about

such transformation for diversity, decentralisation and democracy (Box 8). The environments where people live will need to offer more individual and collective opportunities to engage in many different activities outside,- and unmediated by-, the market, wage work and commodity production. Moreover, these environments must be designed to provide the structural means by which citizens can manage their own affairs through face to face processes of deliberation and decision making.

Box 8. Policy reversals for diversity and localisation

Economic reforms

- Reorientation of the end goals of trade rules and aid such that they contribute to the building of local economies and local control, rather than international competitiveness
- Reintroduction of protective safeguards for domestic economies, including safeguards against imports of food, goods and services that can be produced locally
- A site-here-to-sell-here policy for manufacturing and services domestically and regionally
- Localising money such that the majority stays within its place of origin and helps rebuild the economies of communities
- Local competition policy to eliminate monopolies from the more protected economies and ensure high quality food production, goods and services
- Fund the transition to more localised economies and environmental regeneration by introducing taxes on resources and on speculative international financial flows (US 1500 billion dollars is traded every day on foreign exchange markets alone. Most of it is purely speculative and has nothing to do with the real economy)

Natural Resource Policies

- Redirect both hidden and direct agricultural subsidies towards supporting smaller scale producers to encourage the shift towards diverse, ecological and equitable and more localised food systems,-in pastoral, fishing, farming and forest based communities as well as urban and peri-urban contexts.
- Land reform and property rights,- redistribution of surplus land to tenants and sharecroppers; secure rights of access and use of common property resources, trees and their products
- Protect the rights of farmers to save seed and improve crop varieties and livestock breeds. Ban patent-like legislation on genetic resources important for food, health and agriculture.
- Increased funding for and re-orientation of public sector agricultural research and extension towards participatory approaches and democratic control over priority setting and technology validation.
- Introduction of a two-tier system of food safety regulations: stricter controls on large-scale producers and marketers and a simpler, more flexible, set of locally determined regulations for small-scale localised enterprises.
- R&D and financial support for decentralised and sustainable energy production based on renewable energy.

Sources: Hines, 2000; ATTAC, 2000 ; Pimbert, 2001.

A concluding remark

Perhaps more than ever before, the growth of democratic participation in the management of agricultural biodiversity depends on expanding spaces for autonomous action by civil society as well as on a process of localization and reversals that regenerates a diversity of localised food systems, economies and ecologies. The unprecedented imbalances of power induced by corporate-led globalisation challenge us to engage with these conceptual and methodological frontiers. Now is a time for bold and extraordinary initiatives to ensure that participation does not become a forgotten human right in this century.

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