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Global Restructuring, Agri-Food Systems and Livelihoods

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with Tom Fox,
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and Cecilia Tacoli

2001

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Abstract

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The Gatekeeper Series produced by IIED's Sustainable Agriculture and Rural Livelihoods Programme aims to highlight key topics in the field of sustainable agriculture and resource management. Each paper reviews a selected issue of contemporary importance and draws preliminary conclusions for development that are particularly relevant for policymakers, researchers and planners. References are provided to important sources and background material. The Series is published three times a year – in April, August and December – and is supported by the Swedish International Development Cooperation Agency (Sida).

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2001

Executive Summary

This paper marks the 100th issue of the Gatekeeper Series produced by the International Institute for Environment and Development's Sustainable Agriculture and Rural Livelihoods Programme (SARLs). In it, the SARLs Programme staff take stock of the state of the world's agri-food system, which is going through a period of rapid change towards increasing globalisation and industrialisation.

In this paper, the authors:

1. Analyse the dynamics of the present global agri-food system at different scales;
2. Use a number of analytical lenses to assess the forces and factors leading to diverging rural livelihoods and landscapes, both in the North and South; and
3. Develop research themes which can serve as leverage points for practical policy change for more democratic and environmentally sustainable food and agricultural systems.

A number of erroneous policy recommendations and policy failures stem from too narrow a focus on localised contexts that ignore the wider political economy of the emergent food regime. This paper therefore combines an analysis of global restructuring of agri-food chains with an analysis of livelihoods.

This analysis reveals that the main impacts of increasingly globalised and industrialised food systems are diverging rural worlds and the increasing concentration of power over the entire food chain in the hands of a few transnational actors. A minority of the rural population is connected to the global agri-food economy through contracts with agribusiness and even directly with supermarkets. At the other extreme is a world marked by the struggle for food security and survival, by livelihoods fractured into diverse mixtures of off-farm work, temporary migration and subsistence agriculture, against a backdrop of depleting human and natural resources. In between is a 'shrinking middle' of family farmers and landed peasants producing undifferentiated commodities with low and declining returns.

To achieve a more democratic and environmentally sustainable agri-food system, several deficits in our understanding must be overcome. The paper concludes with a research framework for filling these knowledge gaps, which include: (i) how to improve knowledge of the dynamics of local food systems under rapidly changing economic conditions, particularly in developing countries; (ii) how to bring about democratic change in those systems; (iii) how to increase market power for marginal farmers and farm workers; and (iv) how to enhance and sustain the (ecological and cultural) diversity of agri-food systems.

GLOBAL RESTRUCTURING, AGRI-FOOD SYSTEMS AND LIVELIHOODS

Michel P. Pimbert, John Thompson and William T. Vorley with Tom Fox, Nazneen Kanji and Cecilia Tacoli

The centralized food system that continues to emerge was never voted on by ... the people of the world. It is the product of deliberate decisions made by a very few powerful human actors. This is not the only system that could emerge. Is it not time to ask some critical questions about our food system and about what is in the best interest of this and future generations?

William Heffernan, *Consolidation in the Food and Agriculture Sector* (1999)

Globalising Food

At the start of the twenty-first century we are in the midst of an unusually rapid time of change in all aspects of the world's agri-food system. This system consists not only of the farmers and farm workers who produce the food and fibre we consume, but also the massive industry that processes, packages, distributes and sells it. Although trade in agricultural products has occurred for centuries, the pace at which the world is being bound together by trade and the penetration of the South's agriculture by global agribusinesses is quickening substantially.

It is clear that this increasingly globalised and industrialised food system is not benefiting the majority of family farmers in the North or smallholder farmers in the South. Nor does it ensure an abundant supply of food for all people, as the persistence of hunger in the midst of plenty clearly shows. The negative environmental impacts of this system are also plain to see, from the creation of large 'ecological footprints' from excessive food miles in the production and transportation of agricultural produce, to the effects of non-point pollution from the use of high levels of agrochemicals on biodiversity and the natural environment. The modern food system only meets the needs of a small group of large farmers and multinational manufacturers and sellers of agricultural inputs, as well as food processors, distributors, retailers and certain groups of consumers.

What can be done to redress this imbalance? Can tinkering with the existing industrialised model of agricultural production and consumption realistically deliver a more environmentally sound and humane food system, or is a more fundamental root-and-branch transformation needed? Can grassroots efforts and broader social movements

to increase food security, grow healthier food, and bring producers and consumers closer together, create a more socially just and environmentally sustainable agri-food system?

This paper attempts to address these questions by examining the political ecology of agri-food systems. It aims to:

1. Analyse the dynamics of the present global agri-food system at different scales;
2. Use a number of analytical lenses to assess the forces and factors leading to diverging rural livelihoods and landscapes, both in the North and South; and
3. Develop research themes which can serve as leverage points for practical policy change for more democratic and environmentally sustainable food and agricultural systems.

Analysing Agri-Food Systems and Livelihoods

Food is a basic condition of human life, but its importance goes beyond physical nourishment. Its production, processing, distribution and marketing are estimated to account for over half of all work done in the world today. Food carries enormous social, cultural, political, symbolic and nutritional significance for all societies. Our biological, spiritual and ethical health depend on food in complex ways (Fine, 1998).

An *agri-food system* comprises the set of activities and relationships that interact to determine what and how much, by what method and for whom, food is produced, processed, distributed and consumed (Fine, 1998). Food systems include not just the production aspects of food and fibre, but also the preparation of agricultural inputs, processing, distribution, access, use, food recycling and waste. Food chains or networks, from the point where food and fibre originate, to where they are consumed and disposed of, are important components of the food system. The manner in which inter-linked and increasingly globalised networks of production, on- and off-farm technologies, consumption and regulatory systems are bound together is the centrepiece of any local, national or transnational food system.

A food system perspective highlights the natural resource base and complexity of food production in many rural areas. For instance, it includes an understanding of what is produced on agricultural plots as well as from surrounding lands and water. A narrow focus on agriculture *per se* all too often leads to policies and development interventions that undervalue or undermine the values of the wider local food system for agricultural production, markets, livelihood security, well-being and local culture (Pimbert, 1999).

A food system perspective also helps track and understand how globalisation is transforming the diversity of localised food systems into an integrated and more linear world

system based on the principles of comparative advantage, standardisation, geographical division of labour and control by a few large corporations and trade agreements. In this way, it is informed by recent approaches to the political ecology of food and agriculture (Thompson et al., forthcoming; Goodman and Watts, 1997)¹ and commodity chains analysis (Gereffi and Kaplinsky, 2001; Dolan et al., 1999).

A number of erroneous policy recommendations and policy failures stem from too narrow a focus on localised contexts that ignore the wider political economy of the emergent food regime. To avoid this, we must complement an analysis of the realities of the poor with an analysis of the strategies of more powerful actors who capture most of the political and economic power in the global food system.

Such an approach therefore combines an analysis of the political ecology of food and agriculture with an analysis of livelihoods. A *livelihood system* comprises the capabilities, assets (including economic, ecological and sociocultural resources), and activities required to make a living (Carney, 1998).

A combined food system-livelihood system approach grounds the analysis of global processes of economic change in notions of livelihood, scale, place and network. It recognises that rural people's economic behaviour is embedded in a complex, often extensive web of social relations and globalised networks of economic and political organisations. Issues of cultural identity, social capital, gender, and locality are central to this focus (Arce and Marsden, 1993).

This reformulation of the livelihoods perspective is thus also informed by the concept of *social embeddedness*, which derives from the 'new economic sociology' (Swedborg, 1997), and has its roots in the work of Karl Polanyi (1957), who wrote that "*the human economy...is embedded and enmeshed in institutions, economic and non-economic.*" New research in this area suggests that reliance on such institutions and networks can, under certain circumstances, shield family farmers from the full costs of market relations, assist local stakeholders in capturing downstream profits, enable farmers to develop and maintain ownership over new technology and reduce competition among farmers. It can sometimes also result in new livelihood options, resource access and market opportunities for smallholders and family farmers, even in places undergoing rapid economic, environmental and social change (Bebbington and Batterbury, 2001; Berdegue et al., 2001; Hinrichs, 2000).

A food system perspective can thus usefully balance and broaden the livelihoods lens used by development theorists and practitioners. A comprehensive analysis of the dynamics of livelihoods should not only span the rural-urban continuum (Tacoli, 1998),

¹ The term 'political ecology' emerged in the 1970s in response to the theoretical need to integrate land use practice with the local-global political economy (Wolf, 1972) and as a reaction to the growing politicisation of the environment (Cockburn and Ridgeway, 1979), in part as a critique of attempts by states and development organisations to blame poor people for land degradation and environmental decline (Blaikie and Brookfield, 1987).

Table 1. Food systems and livelihoods perspectives compared

Element	Food systems perspective	Livelihoods perspective
Unit of analysis/scale	Networks of institutional and corporate actors, including global scale. Focus on vertical linkages within the food system	Actors. The household – and occasionally individuals. Emphasis usually the poor, but not always. Focus on horizontal linkages, between rural and urban and within and outside the food system
Analytical orientation	Dynamics of structure-agency relations	Social relations between differentiated actors in specific localities
Sectoral focus	Entirely agri-food, including production, consumption, and the coordination of commodity chains	Rural livelihoods: farming and agricultural production, and income diversification into non-farm employment. Urban livelihoods: food consumption in terms of purchasing power and nutritional status
Power, political economy	Good on understanding where power and therefore profit is being taken – helps identify the key economic players	Good on explaining what makes an actor powerful, but weak on interactions between the different actors
Environment	Can map environmental and social impacts (externalities, etc) of different food production, marketing, disposal systems (e.g. global climate change)	Helps ask the right questions about links between people and environment (e.g. maintenance of soil fertility) extending beyond agricultural production. Draws attention to intra-household decision-making processes (e.g. remittances from migration)

it also needs to track how local livelihoods are structured by national and global policies, institutions and processes that shape agri-food systems. The relative strengths and weaknesses of these complementary perspectives are shown in Table 1.

In the rest of this paper we use this combined perspective to explore the nature of the global food system.

The Impact of Industrialisation and Globalisation

Liberalisation of trade in agriculture and the withdrawal (at least in the South) of governments from intervention in domestic markets have resulted in price and quality standards being set by international markets. Agriculture which is oriented towards both the export sector and internal markets must increasingly turn out products at a similar cost and quality to those that can be bought on the world market (Marsden *et al.*, 2000; Marsden and Arce, 1995; Berdegué, 1997). Those markets are undergoing rapid change. Producers are facing different barriers when supplying *local* markets

(competing on costs with subsidised or dumped exports) or when supplying *global* markets (as well as cost, entry requirements to supply chains such as compliance with standards, codes of conduct). Closed commodity chains are rapidly replacing wholesale or spot markets and are governed by non-agricultural sectors, using global sourcing and advances in processing and transportation technologies (Vorley, 2001). Various forms of contracting in industrialised and developing countries, in which agribusiness contracts growers to produce under tightly regulated conditions for specialised niche markets, have proliferated since the 1960s.

A central feature of modern agri-food systems is the simultaneous industrialisation² and globalisation³ of the food chain (Friedmann and McMichael, 1989). The emergence of a transnational fast food industry as a particularly aggressive form of agribusiness in an era of neo-liberal reforms is one obvious expression of these twin dynamics (Schlosser, 2001; Ritzer, 1998). These shifts have been brought about by a number of key factors, including concentration of production, vertical integration and co-ordination, technological change, deregulation and economic liberalisation. In this section we discuss these factors and their impacts.

Diverging Rural Worlds

Migrant labourers from rural Mexico and Central America harvesting strawberries for minimum wages in the fields of California are icons of the global agricultural system. Ironically, most of the labourers are themselves farmers (or yesterday's farmers), perhaps obliged temporarily to migrate in the face of falling maize prices and cheap imports at home. The owners of the multi-million dollar strawberry farm are minimising their labour and worker welfare costs in order to keep the harvest competitive on the world market.

The way that globalisation and trade liberalisation have brought these two very different rural worlds together mirrors the rapid divergence between and within rural communities in both developing and industrialised regions. A minority of the rural population is connected to the global agri-food economy through contracts with agribusiness and even directly with supermarkets. At the other extreme is a world marked by the struggle for food security and survival, by livelihoods fractured into diverse mixtures of off-farm work, temporary migration and subsistence agriculture, against a backdrop of depleting human and natural resources. In between is a 'shrink-

2 Through industrialisation, agriculture and marketing are becoming increasingly similar to the manufacturing and service sectors: specialised, large-scale, capital-intensive operations, state-of-the-art technology, geographic separation of production stages, routinisation of programmable tasks, scheduling of flow to keep plants at full capacity, full integration into the market, and dependence on wage labour under a hierarchical management structure.

3 Globalisation is narrowly defined here as the interlocking of local, regional and national production and consumption systems through markets into a world capitalist system. It is generally agreed that globalisation has resulted in greater economic integration. At the same time, there is growing concern that such integration has been unstable, uneven and asymmetric across countries, classes and gender.

ing middle' of family farmers and landed peasants producing undifferentiated commodities with low and declining returns. This process of rural differentiation is underway in both the North and the South, between what have been classified as *Rural Worlds 1, 2 and 3* (Box 1).

The negative aspects of these changes can be exaggerated by misunderstanding the process of diversification underway in the peasant and smallholder economy (Bryceson *et al.*, 2000). But the continued marginalisation of small- and mid-size peasantry and family farming in both developing and industrialised countries, and the continued land degradation and externalities from poor or imbalanced land use, clearly threaten the livelihood security of rural producers and vulnerable urban consumers alike.

New trade agreements, policies, technologies and services are opening up hitherto remote areas to the global economy. Powerful food processors and distributors in the

Box 1. Diverging rural worlds

The farmers and entrepreneurs of *Rural World 1* are a globally competitive minority (in Canada, for example, Rural World 1 comprises 5-10% of rural population) connected into the global agrifood economy. Through contracts with a rapidly consolidating agricultural handling and processing industry and even directly with retailers, these farmers are becoming an extension of agribusiness. State resources, especially subsidies and credit programmes, have benefited Rural World 1 in accordance with the political influence and economic power of large modern enterprises.

Rural World 2 is comprised of the family farmers and landed peasantry who were traditionally the bedrock of the rural economy, from India to the American prairies. But low levels of capitalisation and poor integration with downstream food businesses leaves this sector exposed when governments withdraw from agriculture and liberalise agricultural trade, or when agribusiness concentrates market power (and hence profits) off the farm. Rural World 2 faces declining returns and increased risks from agricultural commodity production. Off-farm work is now the norm. This is an ageing farm population whose children are unlikely to succeed them. Niche marketing such as agritourism, organics and local markets has provided viable alternatives to a minority of Rural World 2, mainly in industrialised countries.

The livelihoods of *Rural World 3* focus mainly on survival. It is characterised by fragile entitlements, self-exploitation and unwaged family labour income, and depleted human and natural resources with livelihoods fractured into diverse mixtures of off-farm work, temporary migration and subsistence agriculture. For the global food and fibre market, Rural World 3 is redundant. Rural World 3 is generally excluded from policy-making, despite the rhetoric of 'pro-poor' development strategies. The global economy of Rural World 1 and the economy of Rural World 3 appear to be completely separate, but they do paradoxically come face to face in the apple orchards of Washington State and the strawberry fields of California. There, migrants from rural Mexico and Central America constitute the bulk of the labour force for major agro-industries.

After Reimer (1996) and Davila Villers (in *Rounds*, 1998)

North are extending contract farming to produce food at lower cost or to better standards (including organic production) in developing countries. At the same time, many of the technologies offered by mainstream agricultural research and development and the private sector are 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 pollutive technologies, technologies and farming systems which simplify farm management (such as short rotations, or separation of livestock from arable farming), or fuel-hungry long distance transportation. Relatively little policy thinking, research and funds are allocated to ways of halting or reversing socially and environmentally damaging cost-price squeezes within food systems.

Downward price pressure is exacerbated as production is increased at individual and country level to compensate for lower prices. This leads to a zero sum game and a decoupling of the cost of production from the market price due to increasing overcapacity. As margins are squeezed, it is the small producers who are pushed out of the market first. Oversupply is encouraged by export orientation (often with donor encouragement, as seen with coffee and cocoa production in Vietnam), liberalisation, subsidies and credits aimed at increasing exports, and abandonment of supply control institutions.

Concentration in the Food System: Controlling the 'Means of Coordination'

Transnational companies have often found direct farm production too risky or unprofitable because natural and biological processes resist the standardisation typically associated with modern industrial production. Consequently, industrialisation and capitalisation mostly occur in the realm of credit, processing, and adding value after produce leaves the farm. The expansion and control of these off-farm sectors – seed, fertilisers, herbicides, machinery, processing, retail marketing – is often striking (Reardon and Berdegué, 2000; Box 2).

The major concern about this concentration is the control exercised by a handful of firms over decision-making throughout the food system. In the past, most of the global trading and grain-handling firms were family-held operations which operated in one or two stages of the food system and in a very few commodities. Today the system is becoming much more complex, starting with a firm's involvement in biotechnology, extending through production, and ending with highly processed food (Bonnano *et al.*, 1995). Increasingly, these firms are developing a variety of different alliances with other players in the system, forming new food system 'clusters' (Hefferman, 1999).

As agriculture becomes more concentrated and integrated, these giant clusters maintain an oligopsony – a market in which a small number of buyers exerts power over a large

Box 2 Concentration in agri-food business sectors

1. *In farm inputs*

Concentration in the input sector proceeded at breakneck speed in the 1990s. Six companies now control 80 percent of *pesticide* sales, down from 12 in 1994 (Dinham, 2000, 2001). 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. The level of concentration in the business is in part a desperate drive to maintain profitability against declining strategic value of chemicals, seeds and biotechnology. Value chain thinking rather than technical hubris is key to the sustainability of these industries. Survival will depend on strategic alliances with processors and retailers around food quality and safety.

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 (Harl, 2001). 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

number of sellers – over large parts of the agri-food chain, enabling them to maximise profit while minimising risk. As a result, the food system has begun to resemble an hour-glass. At the top are millions of farmers and farm labourers producing the food and fibre, while at the bottom are billions of consumers, both rich and poor. At the narrow point in the middle are the dozen or so multinational corporations – the input suppliers, processors and retailers – earning a profit from every transaction (Heffernan *et al.*, 1999). Goods are exchanged through closed contracts or intra-firm transfers rather than open wholesale markets (Stumo, 2000); even when they are exchanged in wholesale markets, prices may be well below the cost of production due to oversupply.

A traditional political economy approach to the agri-food chain sees capital accumulated through controlling the tangible *means of agricultural production*: land, labour, nutrients and chemicals, water, genetics and seeds, feed, equipment, and capital. Combining supply chain analysis and political economy reveals, however, that it is ownership and control of *intangible assets*, especially *information, brands and patents*, rather than control of the tangible means of production, that raises sufficient *barriers to competition* to allow the concentration of capital from a supply chain and the conversion of that capital into mobile financial capital (Pritchard, 2000). In other words, the governance of supply chains hinges on controlling the *means of co-ordination* rather than the means of production.

Companies can internationally relocate the ownership of trademarks or patents at the virtual stroke of a pen (or more likely keyboard terminal), actions which potentially can affect the geographical flows of millions of dollars in royalty and related payments, and the international payment of taxation (Dicken, 1998). Accordingly, the international extension and mobility of brands, patents and other forms of intellectual property increasingly is central to the trajectories of agri-food globalisation, and the profit strategies of transnational agri-food corporations.

The global expansion and mobility of intellectual property and intangible assets is helping to redefine the structural agri-food relationships between North and South. For example, in 1997 the US agribusiness company Rice Tec successfully patented Indian basmati rice. This process, which the Indian Government and Indian rice farmers found morally objectionable, was given legitimacy by the World Trade Organization's rules on intellectual property (Greenfield, 1998). Hence, regulatory frameworks for patents and trademarks are now as powerful as trade laws or food aid in shaping structural relations in the global agri-food economy (Ritchie *et al.*, 2001).

Unregulated trade liberalisation and the sheer volume of global financial flows are undermining national and local sovereignty. The voices and priorities of the majority food producers and consumers who are at the receiving end of new developments are usually unheard, particularly the women, poor, migrants, unorganised or minority groups. There is a need to reconnect consumers to the land and help them to understand how their choices in the marketplace affect food producers and the environment (see Box 4).

Within local food systems, small and marginal producers with little access to credit and markets (including information on market functioning) have limited decision-making power about what they produce. At the national level, professional bias and structural constraints within public sector organisations often generate mismatches between what is delivered (policies, technologies, services...) and the diverse needs and realities of weaker actors in the food system. Organisational and institutional transformation for participation has not occurred on a meaningful scale. Within the increasingly global food system, transnational corporations decide more and more and yet are largely unaccountable to society and the international community.

Developing Democratic and Environmentally Sustainable Agri-Food Systems

The foregoing sections established how and why large swathes of agriculture, North and South, particularly those households in Rural Worlds 2 and 3, are in crisis. Trade liberalisation and oversupply combine with industrial concentration to deepen the crisis of agriculture. The polarisation and economic marginalisation of much of global agriculture is paralleled by a decline in agriculture's ability to serve its multiple roles for sustainable development. Recent research by IIED and its partners points to the need to value the multiple functions of family farms – both North and South – if we are to sustain agriculture and regenerate the countryside (Vorley *et al.*, 2001). Agriculture as a sector is expected to provide a whole range of economic, social, and environmental services. These functions include the management of natural resources, conservation of biodiversity, alleviation of poverty, rural employment and enterprise development, generation of trade and foreign exchange, and food security. Addressing the causes of economic marginalisation is key to making the multifunctional role of agriculture a reality, and to rebuilding the resilience of agriculture and rural communities.

The difference between the rising star of the globally competitive entrepreneurs of Rural World 1, the falling fortunes of the family farmers of Rural World 2 and the struggle for survival of the poor peasants of Rural World 3 is that policy-makers often fail to differentiate between their very divergent needs. The 'one-size-fits-none' approach to agricultural policy will no longer do. A more disaggregated and responsive set of policies and processes are needed, particularly for those for whom many public and private policies do not work – the farm families and labourers of Rural Worlds 2 and 3.

To achieve a more democratic and environmentally sustainable agri-food system, several deficits in our understanding must be overcome, including: (i) how to improve knowledge of the dynamics of local food systems under rapidly changing economic conditions, particularly in developing countries; (ii) how to bring about democratic change in those systems; (iii) how to increase market power for marginal farmers and farm workers; and (iv) how to enhance and sustain the (ecological and cultural) diversity of agri-food systems.

Filling the knowledge gaps

There are huge gaps in our understanding of local and regional agri-food systems in the South. The analysis of power relations in agri-food systems has largely been a Northern affair. There is also quite a profound understanding of Southern outposts of Northern supply chains, such as out-of-season horticulture in Africa (e.g. Dolan *et al.* 1999) or soybean production in Brazil. But how far have contractual relationships with agribusiness penetrated into peasant systems? What has been their effect on farmers, small and medium-sized enterprises and the environment?

There is a resurgence of neo-Malthusian and other crisis narratives blaming farmers and local resource users for environmental damage on pastures, agricultural lands, forests, coastal areas and wetlands. By shaping environmental and social knowledge these narratives influence and legitimate policies and interventions that often further exclude weaker actors from the management of productive resources on which local livelihoods depend. How and why are these crisis narratives sustained? Under what conditions can alternative understandings of people-environment interactions emerge?

More research is needed to:

- Understand the impact of global restructuring and economic liberalisation on national and local agri-food systems.
- Explore the strategies and dynamics of the powerful organisations in the global food system (e.g. transnational corporations, multilateral agencies, CGIAR institutions etc). This could be done by combining methodologies such as policy analysis, organisational analysis and participatory impact assessment.
- Identify the structural transformations taking place in the agri-food systems of selected industrialised and developing regions, especially the forces behind these changes, and the strategies used by producers, processors, consumers, households, and communities to manage risk and uncertainty.
- Develop a research agenda that challenges people-environment crisis narratives and their underlying assumptions, methodological biases and power base.

Such research, at both national and local levels, should be participatory and bring different actors together in national/local learning groups. Ideally the aim should be to encourage social change through shifts towards policies, organisations, gender relations and institutions (including markets) for sustainable food systems and livelihoods. Findings from the global level should be incorporated into processes for strengthening and upgrading local/national food systems and livelihoods.

Promoting democracy within food systems

Agri-food policies will need to be considerably redesigned and reformulated in most societies to reconcile public expectations with agri-food practices. There are unfortunately few examples of such inclusive democratic processes. We need methods that bring local voices (producers, consumers, men, women, ethnic minorities) into decisions on the choice of policies and technologies that structure food systems. Such methods include citizens juries (Box 3), scenario workshops and other deliberative and inclusive processes (DIPs) (Pimbert and Wakeford, 2001).

Box 3. Prajateerpu: Food Futures for Andhra Pradesh, India

Prajateerpu, a 'citizens' jury' 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 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 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.

<http://www.iied.org/agri/IIEDcitizenjuryAP1.html>; <http://www.ids.ac.uk/IDS/env/envnew.html>
Source: Pimbert (2001)

But how do we link these DIP methods with a structured process that is supported and followed up by government to guide policies and interventions? We also need to identify and promote policies and practices that link producers and consumers and help reconnect agriculture and society.

This will require:

- New partnerships between the state and local actors.
- Co-management agreements for natural resources, research, organisations, markets, monitoring and evaluation systems and other areas relevant for strengthening national and local food systems.
- Institutional transformation so that gender and democratic participation become mainstream in local adaptive management.
- Learning ‘how to learn’ to respond adaptively to local level environmental and social change through participatory monitoring and evaluation and other processes.

Civil society groups need effective means for scrutinising those who govern the agri-food chains—especially the multiple retailers—on a raft of sustainable development issues, such as the terms of trade within the food chain (Box 4).

Strengthening the market power of primary producers and farm workers

The control of value chains in agri-food systems by clusters of powerful industries and chronic global oversupply have profound impacts on agriculture, especially in *weakening the link between farm prices and food prices*. The global marketplace can drive a ‘race to the bottom’ (Box 4) in its search for cheap labour, cheap resources, weakest regulations, externalised risk and lowest taxation.

A two-pronged approach is needed to both reduce costs and increase the share of sales price to farmers. On the *cost* side, participatory research and innovations can reduce producers’ vulnerability to the cost-price squeeze. For example, regenerative technologies reduce the costs of production and strengthen local control and autonomous action by building on local knowledge, rights, institutions, diversity of natural resources and appropriate external inputs. On the *price* side, local, regional and international markets and forms of economic organisation are evolving that support the regeneration of localised food systems and rural/urban economies, ensuring greater equity in access to food and in capturing added value along the food chain.

Access to competitive markets for both agricultural inputs and outputs is key to the economic viability of independent farms and maintaining a decentralised—and democratic—food production system. We need to identify and promote policies and practices that:

- Restore competitive markets by regulating economic concentration and the dominance of corporate control in the agri-food system.

Box 4. Scrutiny of UK supermarkets: The 'Race to the Top' project

The potential for supermarkets to abuse their dominant market position is high, reflected in a 'race to the bottom' in which competitive retail prices are achieved through driving down farmgate prices and scouring the world for the cheapest supplies. The UK farming industry is facing its worst crisis in over 30 years, and farmers blame concentrated market power in the food chain, especially by supermarkets, for their economic hardship. Retailers tend to pass the buck when it comes to taking responsibility for the shape of the food system, blaming consumers or suppliers for driving current trends. There is a shortage of data on how supermarkets treat their suppliers. How much of a share of food expenditure gets back to the farm? Is there a commitment to local produce? Are contracts fair or one-sided, reflecting the difference in market power between the big retailers and farmers? What about farm workers? Are smaller farmers in developing countries and emerging economies getting a slice of the pie?

A project co-ordinated by IIED is measuring supermarkets' performance in promoting a greener and fairer agriculture and food system. The *Race to the Top* project is benchmarking and tracking the social, environmental and ethical performance of UK supermarkets—including comparative data on supermarkets' relationships with farming at home and abroad—and thereby intends to catalyse change within the UK agri-food sector and beyond. A broad alliance of organisations representing farming, conservation, labour, animal welfare, and sustainable development communities has developed a series of indicators of supermarket performance. These indicators provide comparative data for an annual independent benchmarking process. By identifying, highlighting and rewarding best practice by supermarkets, the project will point to key issues for public policy, consumers, investors, retailers and campaigners.

The breadth of the alliance allows supermarket companies a brokered, constructive relationship with NGOs and campaigning groups. The project turns supermarkets into a powerful educational platform, illuminating the link between shopping choices, retailer policy, and the health of agriculture and the food system. The Race to the Top indicators are useful pointers for socially responsible investment (SRI) funds, helping them to deploy their retail investments to where genuine social and environmental improvements are taking place. The information from the project can also allow the mainstream investment community to evaluate the risk of supermarket investments, including risk to reputation brought about by ethical or environmental liabilities. Lastly, the project can help government to understand and better define the role of regulation—where government policy can support supermarket best practices—and the limits to industry self-regulation and voluntary initiatives.

Further information is available at www.racetothetop.org

- Support collective action among farmers which bolsters their bargaining power and improves their access to buyer-driven supply chains.
- Manage supply at national and global levels to avoid overproduction and subsequent export dumping and low prices.
- Ensure agricultural workers a decent wage and a safe, healthy working environment, and build better links between farm workers, farmers and consumers. In agriculture,

we frequently talk about ‘farmers’ but rarely mention farm workers. Yet in many countries and contexts (such as plantation agriculture, seasonal horticultural work, food processing, meat packing) these workers – many of whom are women and children – represent the majority of the agricultural workforce (Kanji, 2001). South and North, they are the most socially vulnerable, lowest paid, most exposed to risks (such as pesticides) and most marginalised rural citizens.

Increasing diversity in agri-food systems

Healthy biodiversity within and around agroecosystems will perform ecological services, such as recycling nutrients and enhancing natural enemies of pests, as well as providing diverse, quality foods and other farm products. Diversification can be further enhanced by maximising the use of internal assets (social, natural, financial) and by integrating production with local needs and local markets. However, R&D priorities for agricultural machinery and food processing technologies increasingly favour uniformity. Global markets and corporate owned food processing technology tolerate little variety in raw materials. Policies and practices are needed that diversify agricultural production and improve land stewardship on individual farms and throughout the food system.

Research can contribute to this by:

- Bringing farmers and scientists together to design integrated agroecosystems which break the monoculture structure and dependence on suppliers of off farm inputs.
- Identifying trade rules and forms of economic organisation that promote diversity (social and biological).
- Identifying and promoting greater flexibility in marketing standards to allow food retailers to diversify varieties of produce and reduce wasteful cosmetic standards for foods.
- Exploring policies, technologies and institutions that can regenerate diversity *outside* the market, wage work and commodity production.
- Establishing the impacts on environmental transformation and livelihoods of re-localising *plural* economies that combine both subsistence and market oriented activities.
- Ensuring a better fit between the design of agri-food systems and diverse landscapes characterised by uncertainty, spatial variability and complex non-equilibrium and non-linear ecological dynamics (Flora, 2001; Holling *et al.*, 1998).

The tailoring of agri-food systems to this dynamic diversity depends on local-level adaptive management, decentralisation and participation in which citizens are central actors in analysis, planning, negotiations, action, coordination and benefit sharing across the entire agri-food chain. This implies citizens gaining more control over both the means of production and the means of coordination – with their own priorities, knowledge, perspectives, institutions, practices and indicators shaping the future of food systems, livelihoods and environment (Box 5).

Box 5 . Localised food systems to reclaim diversity, restore livelihoods and landscapes

Women farmers in dryland India have set up an innovative and highly successful decentralised and community-managed system for producing, storing and distributing coarse grains at a local level. The poorest of the poor among the lowest-caste *dalit* women have set up and taken control of this local variant of the Public Distribution System (PDS) in Medak district, Andhra Pradesh. The key elements of this highly successful formula are:

1. Effective dryland farming systems: deployment of a functional genetic and species diversity in complex agroecosystems with many internal linkages managed by the farmers.
2. An alternative Public Distribution System: a decentralised, low-cost, village-based and locally-managed system, which is effective and equitable in allocating scarce resources to those most in need.
3. Locally-controlled financial systems: in each village, the Community Grain Fund (CGF) provides money for activities such as land regeneration and the distribution of sorghum at subsidised prices to the poorest.
4. Locally-defined systems of rights, responsibilities and benefit sharing. Through their own analysis and capacity to plan, negotiate and act, the women's collectives have developed their own institutional arrangements for allocating rights, resources and responsibilities. Women use participatory wealth ranking to allocate food to the poorest in each village, illustrating the institutional and policy capacity of these poor and largely illiterate women.

Detailed evaluations done by the women themselves and the government of Andhra Pradesh confirm the remarkable results achieved in terms of gender equity, food security, autonomy and capacity of federated local groups, recovery of agricultural biodiversity and degraded lands, and sustainability. It is in the context of these highly localised systems that diversity, livelihoods, democracy and landscapes can be regenerated.

Source: *Women Sanghams*, Satheesh and Pimbert, 1999.

Looking Forward

Many small farmers and rural communities are defending their interests and developing alternatives to the global restructuring of food and agriculture (Rossett, 1999). Moreover, many urban dwellers and political leaders have come to recognise the multiple functions of agriculture and its importance to the countryside (FAO, 1999). Efforts are being made in many quarters to overcome the deficits outlined above and to find the right conditions of public policy, market opportunities, information technology, farmer organisation and corporate responsibility to support fair trade between agribusiness and small farmers; develop direct exchanges between rural producers and urban consumers thereby ensuring higher prices for producers and lower costs for urban

consumers; develop more environmentally sustainable production practices; and improve quality and consistency of products.

Out of the contradiction between industrialisation, sustainability and livelihoods, new spaces for alternative agri-food networks and groups are emerging – farmers' markets, producer organisations, growers' cooperatives, community-supported agriculture (CSA) or community-based agriculture (CBA) schemes – whose aim is to de-commodify food and agriculture and build closer linkages between producers and consumers. It also opens up new possibilities for a serious debate about the politics of food and how power and authority are exercised across the food chain. Experience and learning from these alternative initiatives need to be integrated into the working of markets and economics, otherwise they will continue to be viewed by policy-makers and market actors as insignificant.

We need to expand these efforts by building better governance structures and systems, shift the fundamental focus of conventional agricultural science and practice, and support and strengthen the emergence of local food systems from below. Paying attention to policy *processes*, *institutions* and the *relationships between actors* is more important than rolling out ever more programmes and initiatives.

In the face of the processes of globalisation that are affecting even the most marginalised and peripheral populations, the roles, rights, responsibilities and interactions of industry, commerce and civil society need to be explored as well as those of central and local government. If increasing worldwide inequality and environmental degradation are to be reversed, all these groups need to be involved in creating a more democratic and equitable approach to R&D, trade and sustainable countrysides. Above all, the marginalised people of Rural Worlds 2 and 3 must be empowered to make policy rather than merely ignore, evade or suffer its consequences.

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