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Food Sovereignty, Agroecology and Biocultural Diversity: Constructing and Contesting Knowledge. Routledge Studies in Food Society and Environment

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The papers in this volume interrogate the nature and content of knowledge about agriculture, natural resource management and rural development, who produces it, and how it is produced, and what that means for the discourse on sustainable rural development. The power dynamics that underpin both the ways knowledge is produced and disseminated are among the critical factors that have shaped the discourse on smallholder agricultural production and its contribution to rural economic transformation.

Food sovereignty, agroecology and biocultural diversity have inspired smallholder producers to contest the dominant paradigm and to reimagine agricultural production, ecological stewardship and economic development that is at once empowering and sustainable. Food sovereignty aims to counter globalisation of food systems.

Agroecology is predicated on a systems approach to agriculture and land use that reinforces the link between agricultural production, ecology and biodiversity.

Biocultural diversity 'encompasses biological diversity at all levels ... as well as cultural diversity in all its forms' (p. 16).

All eight papers in the volume find fault with 'knowledges and epistemologies' about agriculture, conservation and development coming out of mainstream institutions that process and produce knowledge for 'their inability to come to terms with the dynamic complexity and variation within and among ecosystems' (p. 1), thereby generating a crisis in agriculture and natural resources management. Although coming from different professional backgrounds, all the authors are critical of the dominant paradigm that has informed the policy and institutional set up for agriculture, natural resource management and rural development. The papers seek to construct knowledge that is appropriate to food sovereignty, agroecology and biocultural diversity, through democratisation of knowledge systems and processes.

In chapter one, the editor introduces the volume, articulates its key message and argument, explains the major terms and how they have evolved to inform a global social movement that is contesting the dominant paradigm and reimagining an alternative paradigm for development generally and the management of food systems in particular. He asserts that 'much of the knowledge produced by mainstream research is inappropriate or directly harmful to local communities and the environments on which they depend for their food security, livelihoods and culture' (p. 1). The dominant knowledge systems embody 'reductionist biases, unproven assumptions and narrow historical perspectives that legitimate the dominant food regime and current land uses' (p. 1).

Contributions to the volume by Eric Ross¹ and Gilbert Rist² demonstrate how the dominant knowledge system has evolved with explanatory models that take the capitalist mode of production as a given. Ross shows how the Malthusian explanation of poverty, underdevelopment and associated patterns of mortality and environmental degradation as products of human population pressure on the means of subsistence have informed policy responses to address these challenges. Such paradigms 'have helped to legitimise an explanation of the origins of poverty and underdevelopment that only allows 'solutions' that are compatible with the advance of capitalist interests' (p. 169). Rist demonstrates how the science of economics has been shaped by a Eurocentric 'market monotheism', thanks to Adam Smith, David Ricardo and Karl Marx, that does not allow for the possibility of other ways of understanding the world. Although their theories were informed by the concrete realities around them, the three founders of classical economics do not limit themselves to discussing the world around them, but rather proceed to establish a science with universal application, which ignores and rejects that 'other ways of conceiving of production, consumption and distribution exist elsewhere in the world' (p. 251).

All the papers contrast two competing paradigms of development. One envisions the end of peasantry, and the other promotes a process of 're-peasantization'. These paradigms define and shape the contest over what knowledge counts and whose knowledge prevails. The dominant paradigm has engendered institutionalised bias in

¹ 'Sub-Saharan Africa, Kenya and the Malthusian Paradigm in Contemporary Development Thinking' (ch. 5)

² 'Economics: the Limitations of a Special Case' (ch. 7)

research that explains (among other things) the uneven development of agroecology in comparison to genetic engineering; policy and institutional reforms that undermine tenure rights of peasants and indigenous peoples; and imposition of linear, equilibrium-based explanatory models and management regimes on ecosystems that are characterised by uncertainty, dynamism and complexity. It has thereby perpetuated epistemic injustice that undermines peoples' knowledge and agency. The papers provide theoretical and practical support for social movements pushing for an alternative paradigm that empowers indigenous peoples and local communities by recognising, valuing and working with their knowledge.

In chapter two³, Gaetan Vanlonqueren and Philippe V. Baret make use of concepts from evolutionary economics to explain how the current agricultural science and technology landscape has made it possible for one technological paradigm (genetic engineering) to flourish at the expense of another (agroecology). Using a systems of innovation approach, they identify determinants of innovation within the agricultural research system, which combine to form a technological regime, comprised of 'social, cultural, economic and/or political factors that act positively or negatively on the development of technological trajectories' (p. 63).

Agricultural science policies influence the choice of research orientations, the relations between public and private sectors, the power of lobbies, the role of media and lobbies. Private sector investments in research and development (R&D) are influenced by considerations about future returns on those investments, so that the possibilities of patenting have attracted them more to genetic engineering than to agroecological innovations. Public sector perspectives on agricultural research are dominated by the industrial approach to agricultural sciences and underpinned by globalisation and liberalisation of agricultural commodity markets.

Nina Isabella Moeller questions the appropriateness of this technological regime for 'protecting traditional knowledge'.⁴ She questions the idea of protecting traditional knowledge, casting doubt on whether those who purport to do so even understand what that knowledge is. She asserts that 'what exactly knowledge is, what it does, what it means, and what people value about it does not become clear simply by invoking the

³ 'How Agricultural Research Systems Shape a Technological Regime that Develops Genetic Engineering but Locks out Agroecological Innovations'.

⁴ 'Plants that Speak and Institutions that Don't Listen: Notes on the Protection of Traditional Knowledge' (ch. 7)

term'. Her analysis is based on a case study of an access and benefit sharing (ABS) project funded by the German Ministry for Education and Research in a part of Ecuadorian Amazon region. She demonstrates how even well-meaning interventions negotiated within the framework of the United Nations (in this case the CBD) are limited in their operational effectiveness by the dominant paradigm that informs the framing of the problem as well as the solution. In this case, casting the protection of traditional knowledge in terms of reinforcement of intellectual property rights ends up advancing the process of capital expansion and market consolidation, and sidelining and silencing 'those understandings of traditional knowledge which, if taken seriously, raise uncomfortable questions about our current socio-economic order' (p. 204).

Making the transition from the current unsustainable path of development to a more sustainable future was acknowledged as a global imperative at the Earth Summit. Kristen Blann and Stephen S. Light⁵ argue that the transition requires a paradigm shift to reconcile the imperative of predictability in the management of ecosystems with the need for a certain amount of complexity to retain resilience in an ecosystem. This calls for a fundamental transformation of the knowledge system through tackling entrenched interests that are embedded in the structures of knowledge, power and privilege; redesigning science to integrate alternative approaches that promote sustainability; reforming the governance of natural resources to become more collaborative and participative; and embracing adaptive management that recognises the complexity and dynamism of ecosystems.

The chapter by Sian Sullivan and Katherine Homewood⁶ is of particular relevance to Africa, where the drylands constitute at least forty per cent of the land mass.⁷ These lands and their pastoralists and pastoral livelihood systems are viewed in two contested perspectives. The dominant perception is of 'localities and peoples ... distinguished by their poverty, their environmental fragility, the scourge of degradation and 'encroaching deserts', the eruption of disorder, conflict and banditry and the apparent need for a civilizing intervention that favours settlement, land privatization and planning' (p. 115). An alternative paradigm emphasises 'the ecological and economic rationales behind mobile livestock production systems in the drylands' (p. 116).

⁵ 'Sustainability Science and "Ignorance-Based" Management for a Resilient Future' (ch. 3)

⁶ 'On Non-Equilibrium and Nomadism: Knowledge, Diversity and Global Modernity in Drylands'.

⁷ Policy Framework for Pastoralism in Africa, Addis Ababa: African Union, Oct. 2010: 1.

According to Sullivan and Homewood the terms 'non-equilibrium' and 'nomadism' are the main reason scholars and policy makers have had problems with the drylands, mobility and other pastoral livelihood practices. Drawing on analytical frameworks from philosophy, anthropology, economics and political economy, they explain how the dominant environmental discourse is reified as 'truth' that informs policy and planning in ways that 'disenfranchise those with different – but perhaps no less 'true' perceptions regarding the same phenomena' (p. 116). They conclude that the binary positions (equilibrium/non-equilibrium thinking, settled/mobile practices, modernity/post-modernity) that underpin the two paradigms 'are ideological in nature, extending from fundamentally different ways of imagining, evaluating and being in the world, as well as from different ways of realizing power' (p. 120).

In the final chapter the editor charts an alternative path to the current top-down technocratic approach that is bottom-up, democratic and empowers smallholder producers, their knowledge systems and institutions. It is a bold and ambitious plan, but by no means new, and this not the first book to advocate it. Paulo Freire,⁸ Donella Meadows,⁹ Amartya Sen,¹⁰ Robert Chambers,¹¹ David Korten,¹² Jeffrey Sachs¹³ and others have provided similar critiques of the current global development model and the knowledge system that supports it; and have articulated alternative approaches that are more empowering of the majority and sustainable.

Similar critiques and alternative visions have been articulated collectively at the global level through *Our Common Future*, the report of the World Commission on Human Environment and Development published in 1987 and *Agenda 21*, the programme of action agreed at the 1992 Earth Summit. The Convention on Biological Diversity (CBD) and the United Nations Declaration on the Rights of Indigenous Peoples (UNDRIP) both advocate for and articulate strategies for empowering indigenous peoples and their knowledge systems in the management of ecosystems and development processes. More recently, the Voluntary Guidelines on the Responsible Governance of Tenure of Land, Fisheries and Forests in the Context of National Food Security (VGGT) have

⁸ *Pedagogy of the Oppressed*. Harmondsworth: Penguin Books, 1970.

⁹ With Jorgen Randers and William W. Behrens III. *The Limits to Growth*. Universe Books, 1972.

¹⁰ *Poverty and Famines: An Essay on Entitlement and Deprivation*. Oxford: Clarendon Press, 1981.

¹¹ *Rural Development: Putting the Last First*. New York: Prentice Hall, 1983.

¹² *When Corporations Rule the World*. Kumarian Press and Berrett-Koehler Publishers, 1995.

¹³ *The end of Poverty: How We Can Make It Happen in Our Lifetime*. Harmondsworth: Penguin Books, 2005.

reaffirmed a commitment by the global community to participatory, bottom-up approaches to the governance of land and natural resources. As regards the drylands and pastoral livelihoods, the African Union adopted the Policy Framework on Pastoralism in Africa, which articulates the same principles.

Nevertheless, this book makes an important contribution to advancing the alternative paradigm. It brings intellectual rigour to bear on a critique and analysis that has informed the evolution of a global social movement to counter the neoliberal development paradigm. Through case studies from such diverse contexts as Cuba, France, Bangladesh, India, Peru and USA, the book provides examples of innovative approaches that producers are actively employing to produce and process knowledge, and to craft institutional arrangements that foster and implement alternative visions of agricultural production, environment and natural resource management, and rural development. The examples and case studies show that, notwithstanding the dominant paradigm, peasant farmers, indigenous communities, pastoralists and other producers are constantly contesting the imposed knowledge systems and reimagining their world in a manner consistent with their values, knowledge and institutions.

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