POWER AND THE GLOBAL GOVERNANCE OF PLANT GENETIC RESOURCES

by

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Statement

The work embodied in this thesis has not previously been submitted for any other degree or diploma and is my own original work.

Johanna Sutherland
Acknowledgments

The process of writing this PhD has not been an easy one for me, my spouse and son, or the few advisors upon whom I have relied for guidance. My supervisor, Greg Fry, in the Department of International Relations (IR), has been a constant support. His patience was often tested as my drafts meandered. His rigorous and perceptive comments, and interest in theoretical enquiry, were a source of sustenance and challenge. Similarly, I am deeply indebted to Lorraine Elliott, who always provided insightful comments on draft chapters, and who pointed me to several recent publications of relevance. Both Greg and Lorraine were mentors for me during my MA(IR) in the Department. My third panel member, Peter Drahos, also provided welcome direction and encouragement, particularly during 1997/98, and for that I will always be grateful.

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Abstract

This thesis explores the location and nature of the power that is deepening and broadening the revolution in modern biotechnologies, and which is inherent in the global governance of one type of genetic resource — plant genetic resources. Plant genetic resources are of increasing importance within the global political economy and ecology because of the power/knowledge networks contributing to, and responding to developments in the biotechnology sector, and to the rampant erosion of biological diversity. Governance is defined for the purpose of the thesis as the practices, mechanisms, techniques and social institutions that influence and regulate human conduct. Global governance focuses on global phenomena but recognises the mutually constituting interaction of global discourses with actors and activities at all levels. To be governable is to be a site for technological and political interventions and the exercise of power, by diverse actors.

The thesis engages with some of the ideas developed by the French political theorist, Michel Foucault, as well as more recent works by reflectivist and constructivist theorists who write within the discipline of international relations. The thesis argues that power within governance and governed political communities is ubiquitous but diffuse, empowering and constraining. It is also inseparably linked with knowledge. Complex mediations of power/knowledge, or politico-epistemic practices, constitute new objects of knowledge and new subjects in relation to whom power is exercisable. Power as a productive force can be embodied in networks of discourse and practice, and it is associative, conjunctive and dispersed.

The thesis argues that discourse and norms are central to power, and that diverse actors exercise diffuse power in global governance. As a preliminary definition, discourses can be seen as socially embedded frameworks and matrixes of thought, language, practices and rhetorical strategies, by which realities are made knowable, governable and true. How issues are framed or constructed within a discourse can have important implications for the governance that ensues. It can determine which intergovernmental institution has primary carriage of an issue, and how relevant issues are constructed. Discourses can also include bodies of scientific knowledge and expert technical opinion. But they can also include norms and principles, or ethical standards of 'appropriate' behaviour, and these can influence individual and group subjectivities.

This thesis challenges a number of conventional wisdoms which arise from more orthodox interpretations of power and global governance. It does not support the realist and neorealist argument that states are rational and unitary actors who seek to maximise power and who calculate their interests in terms of power. It does not support 'English school' realism which also assumes that states are the primary actors of importance in the international system but that norms, principles and consent are legitimate constraints on the exercise of power. Nor does it support Marxist, neo-Marxist and critical political economy approaches which locate power in the structure of production,
the owners of capital or those in control of the dominant technologies in the global political economy.
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# Table of Acronyms and Abbreviations

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<tr>
<th>Acronym</th>
<th>Description</th>
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<tbody>
<tr>
<td>A-CAP</td>
<td>Australia, Canada, Japan, New Zealand, United States</td>
</tr>
<tr>
<td>AGEN</td>
<td>Australian Gene Ethics Network</td>
</tr>
<tr>
<td>AIA</td>
<td>Advanced Informed Agreement</td>
</tr>
<tr>
<td>AOSIS</td>
<td>Alliance of Small Island States</td>
</tr>
<tr>
<td>ARIPO</td>
<td>African Intellectual Property Organisation</td>
</tr>
<tr>
<td>ASEAN</td>
<td>Association of South-East Asian Nations</td>
</tr>
<tr>
<td>ASSINSEL</td>
<td>International Association of Plant Breeders for the Protection of Plant Varieties</td>
</tr>
<tr>
<td>BIO</td>
<td>Biotechnology Industry Organisation (BIO)(US)</td>
</tr>
<tr>
<td>Cairns Group</td>
<td>a coalition of eighteen countries seeking freer and fairer agricultural trade</td>
</tr>
<tr>
<td>CANZ</td>
<td>Canada, Australia and New Zealand</td>
</tr>
<tr>
<td>CBD</td>
<td>Convention on Biological Diversity/Biodiversity Convention</td>
</tr>
<tr>
<td>CEDAW</td>
<td>Convention on the Elimination of All Forms of Discrimination Against Women</td>
</tr>
<tr>
<td>CEE</td>
<td>Group of Central and Eastern European countries</td>
</tr>
<tr>
<td>CEL</td>
<td>Commission on Environmental Law, IUCN</td>
</tr>
<tr>
<td>CERD</td>
<td>Convention on the Elimination of All Forms of Racial Discrimination</td>
</tr>
<tr>
<td>CGG</td>
<td>Commission on Global Governance</td>
</tr>
<tr>
<td>CGIAR</td>
<td>Consultative Group on International Agricultural Research</td>
</tr>
<tr>
<td>CGRFA</td>
<td>Commission on Genetic Resources for Food and Agriculture, FAO</td>
</tr>
<tr>
<td>CI</td>
<td>Conservation International</td>
</tr>
<tr>
<td>CIEL</td>
<td>Center for International Environmental Law</td>
</tr>
<tr>
<td>CIKARD</td>
<td>Center for Indigenous Knowledge for Agriculture and Rural Development</td>
</tr>
<tr>
<td>COICA</td>
<td>Coordinating Body for the Indigenous Peoples’ Organisations of the Amazon Basin</td>
</tr>
<tr>
<td>Compromise</td>
<td>informal coalition during the negotiation of the Cartagena Protocol on Biosafety, comprising Japan, Mexico, Norway, South Korea and Switzerland</td>
</tr>
<tr>
<td>COP</td>
<td>Conference of the Parties to the Convention on Biological Diversity</td>
</tr>
<tr>
<td>CPGR</td>
<td>Commission on Plant Genetic Resources, FAO (later CGRFA)</td>
</tr>
<tr>
<td>ECOSOC</td>
<td>Economic and Social Council, United Nations</td>
</tr>
<tr>
<td>ELC</td>
<td>Environmental Law Centre, IUCN</td>
</tr>
<tr>
<td>EU</td>
<td>European Union: members Austria, Belgium, Denmark, Finland, France, Germany, Greece, Ireland, Italy, Luxembourg, the Netherlands, Portugal, Spain, Sweden, the United Kingdom</td>
</tr>
<tr>
<td>FAO</td>
<td>Food and Agriculture Organization of the United Nations</td>
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<td>FIS</td>
<td>International Seed Trade Federation</td>
</tr>
<tr>
<td>FoE</td>
<td>Friends of the Earth</td>
</tr>
<tr>
<td>FWCCW</td>
<td>United Nations Fourth World Conference on Women</td>
</tr>
<tr>
<td>G15</td>
<td>coalition of developing countries including Argentina, Algeria, Brazil, Chile, Egypt, Mexico, Jamaica, Kenya, India, Indonesia, Malaysia, Senegal, Venezuela, Peru, Nigeria, Yugoslavia and Zimbabwe</td>
</tr>
<tr>
<td>G7</td>
<td>group of seven leading industrialised countries (Canada, France, Germany,</td>
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Italy, Japan, UK and US). Becomes the G-8 with Russia

G77 group of developing countries which now has more than 130 members

GATT General Agreement on Tariffs and Trade

GEF Global Environmental Facility

GIC Global Industry Coalition

GMO Genetically modified organism

GPA Global Plan of Action

GRAIN Genetic Resources Action International

GRULAC Group of Latin American and Caribbean countries

HYV high yielding variety of a crop

IARCs International Agricultural Research Centres

IBP International Biological Program

IBF International Bioindustry Forum

IBPGR International Board for Plant Genetic Resources (later IPGRI)

ICAD integrating conservation and development so as to develop incentives for conservation by realising social and economic benefits from conservation management

ICDSI Independent Commission on Disarmament and Security Issues

ICIDII Independent Commission on International Development Issues

IPFRI International Food Policy Research Institute

IISD International Institute for Sustainable Development

IPGRI International Plant Genetic Resources Institute (formerly IBPGR)

IPO Indigenous Peoples’ Organisation

IPPC International Plant Protection Convention

IPR intellectual property right

IRRI International Rice Research Institute

ITDG Intermediate Technology Development Group

IU International Undertaking on Plant Genetic Resources

IUCN World Conservation Union (International Union for the Conservation of Nature and Natural Resources)

IUPN International Union for the Protection of Nature, the predecessor to the IUCN

JBA Europabio, Japan Bioindustry Association

JUSSCANNZ Australia, Canada, Japan, New Zealand, Norway, Switzerland, United States

Like-minded negotiating group on biosafety issues; the majority of developing countries plus China but not the developing countries in the Miami Group

LMO living modified organism

MAB Man and the Biosphere Program, UNESCO

Mercosur Argentina, Brazil, Paraguay, Uruguay

Miami Group an informal negotiating group of GMO crop and commodity exporting nations — US, Argentina, Australia, Canada, Chile, and Uruguay — in biosafety negotiations

MTA Material Transfer Agreement

NGO non-government organisation

NIEO New International Economic Order

OAPEC Organisation of Arab Petroleum Exporting Countries

OAPI African Intellectual Property Organisation

OECD Organization for Economic Cooperation and Development: members Austria, Belgium, Canada, Denmark, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, the Netherlands, Norway, Portugal, Spain, Sweden, Switzerland, Turkey, the United Kingdom, United States, Japan, Finland, Australia, New Zealand, Mexico, the Czech Republic, Hungary
OPEC Organisation of Petroleum Exporting Countries
PBR/PVR plant breeder’s right/plant variety right
PTO U.S. Patent and Trademark Office
RAFI Rural Advancement Foundation International
RAN Rainforest Action Network
SBSTTA Subsidiary Body on Scientific, Technical and Technological Advice, CBD
SPREP South Pacific Regional Environment Programme
SSC Survival Service Commission (later the Species Survival Commission), IUCN
TRIPS Agreement on Trade-Related Aspects of Intellectual Property Rights, including Trade in Counterfeit Goods
Umbrella Group Australia, Canada, Iceland, Japan, New Zealand, Norway, Russia, Ukraine, United States
UN United Nations
UNCED United Nations Conference on Environment and Development
UNCTAD United Nations Conference on Trade and Development
UNDP United Nations Development Program
UNEP United Nations Environment Program
UNESCO United Nations Education, Scientific and Cultural Organisation
UNGA United Nations General Assembly
UNICE Union of Industrial and Employers’ Confederations of Europe
UPOV Union for the Protection of New Varieties of Plants
USAID US Agency for International Development
WCED World Commission on Environment and Development
WCHR World Conference on Human Rights, Vienna 1993
WEOG Western Europe and other States group. Members include Andorra, Australia, Austria, Belgium, Canada, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Lichtenstein, Luxembourg, Malta, Monaco, the Netherlands, New Zealand, Portugal, San Marino, Spain, Sweden, Turkey, the United Kingdom. The U.S. attends this group as an observer and tends to vote with it.
WFP World Food Programme
WIPO World Intellectual Property Organization
WRI World Resources Institute
WTO World Trade Organization
WWF Worldwide Fund for Nature/World Wildlife Fund (US)
agricultural biodiversity or agrobiodiversity: the variety and variability of animals, plants, and micro-organisms that are important to food and agriculture, and which result from the interaction between the environment, genetic resources and the management systems and practices of culturally diverse people.

base collections: long-term storage of plant genetic resources under adequate conditions, and not a source for routine distribution. Base collections are primarily custodial collections for genetic security. Materials are only removed for infrequent regeneration when the viability of the seed declines below an acceptable standard.

biodiversity prospecting: search for and collection of biological material for chemical analysis and possible commercial use.

biological diversity: the variability among living organisms from all sources including, terrestrial, marine and other aquatic ecosystems and the ecological complexes of which they are part. It includes diversity within species, between species and of ecosystems.

biota: total flora and fauna of an area.

dependency: the safe and environmentally sustainable use of biological products and biotechnology.

biotechnology: any technological application that uses biological systems, living organisms, or derivatives thereof, to make or modify products or processes, to improve plants or animals or to develop micro-organisms for specific uses. The term covers a wide range of techniques, including plant tissue culture, microbial and plant gene manipulation, the production of monoclonal antibodies, protoplast fusion and other methods of crossing distant species, the sequencing of protein and nucleic acids, and the in vitro synthesis of secondary metabolites and pharmaceuticals.

breeder's exemption: a plant breeder's right does not extend to non-commercial acts done privately, acts done for experimental purposes, and acts done for the purpose of breeding other varieties.

chromosome: body found in the nucleus of living cells, composed mainly of DNA and protein, in a linear sequence of genes. The exchange of genes during sexual reproduction is facilitated by the splitting of chromosomes during fertilisation.

country of origin of genetic resources: the country which possesses genetic resources in situ conditions.

DNA (deoxyribonucleic acid): the genetic material of organisms which is a major constituent of the chromosomes within the cell nucleus, and that plays a central role in the determination of hereditary characteristics by controlling protein synthesis in cells.

ecosystem: a dynamic complex of plant, animal, fungal and micro-organism communities and its associated non-living environment that interact as an ecological unit.

endemic: a species which is indigenous to an area, but not necessarily only located there.

ex situ germplasm collections: collections of germplasm held outside their natural habitats.

Crop genetic resources are usually seeds held in dry, cold storage but they can also include field plantings (such as botanical gardens or arboreta), pollen held in cold storage, tissue cultures, or seed, pollen or tissues held under cryogenic storage conditions.

ex situ conservation: the conservation of components of biological diversity outside their natural habitats.

farmer's privilege: the right created when a UPOV party lawfully restricts a plant breeder's right in relation to any variety in order to permit farmers to use for propagating purposes, on
their own holdings, the product of the harvest which they have obtained by planting, on their
own holdings, and essentially derived and certain other varieties.

Farmers Rights: rights arising from the past, present and future contributions of farmers in
conserving, improving, and making available plant genetic resources, particularly those in
the centres of origin and/or diversity. These are still being negotiated within the FAO
CGRFA.

Fauna: all of the animals found in a given area.

Flora: all of the plants found in a given area.

Food security exists when all people, at all times, have physical and economic access to
sufficient, safe and nutritious food to meet their dietary needs and food preferences for an
active and healthy life.

Gene: the functional unit of heredity transmitted from generation to generation during sexual or
asexual reproduction; the part of the DNA molecule containing functional units of heredity.

Genetic engineering: techniques used by scientists to transfer genes from one organism to
another such as using recombinant DNA.

Genetic material: any material of plant, animal, microbial or other origin.

Genetic resources: genetic material of actual or potential value.

Genus (genera): a category used in the classification of organisms that consists of a number of
closely related species.

Habitat: the place or type of site where an organism naturally occurs.

In situ conditions: conditions where genetic resources exist within ecosystems and natural
habitats, and, in the case of domesticated or cultivated species, in the surroundings where
they have developed their distinctive properties.

In situ conservation: the conservation of ecosystems and natural habitats and the maintenance
and recovery of viable populations of species in their natural surroundings and, in the case
of domesticated or cultivated species, in the surroundings where they have developed their
distinctive properties. It includes on-farm conservation of semi-domesticated crops and
primitive cultivars, nurtured in farmers’ fields and used by local communities.

Intangible property: includes patents, copyright and related rights, trademarks, geographical
indications, industrial designs, patents, and protection of undisclosed information. These are
legal rights attaching to distinctive, useful and intellectual information, which can prevent
others from copying, selling or otherwise dealing commercially with the information or
product without the property right holder's approval.

Keystone species: species which are crucial to maintaining the organisation and diversity of
ecological communities.

Landraces: farmer-developed crop-plant cultivars which are adapted to local environmental
conditions and/or which are bred selectively for desired characteristics. Also known as
‘peasant varieties’ or ‘folk varieties’.

Living modified organism (LMO): any living organism that possesses a novel combination of
genetic material obtained through the use of modern biotechnology.

Living organism: any biological entity capable of transferring or replicating genetic material.

Material transfer agreement: a type of contract specifying the terms and conditions by which
biological material is exchanged for monetary or other benefits.

Modern biotechnology: the application of in vitro nucleic acid techniques, including
recombinant DNA and direct injection of nucleic acid into cells or organelles. It also
includes the fusion of cells beyond the taxonomic family, that overcome natural
physiological reproductive or recombination barriers and that are not techniques used in traditional breeding and selection.

‘the north’: industrialised economies including the United Kingdom, United States, Canada, western European states, Japan, Australia and New Zealand.

phylum: in taxonomy, a high-level category just beneath the kingdom and above the class; a group of related, similar classes.

plant breeder: the person or their employer, or their successor in title, who bred, or discovered and developed, a variety, where the laws of the relevant contracting party so provide.

plant breeder’s right: the right of the breeder provided for in the UPOV.

plant genetic resources: plant components which contain functional units of heredity of actual or potential value and which determine the range of genetic variability which is available to a plant population. Plant genes, which are found in all plant cells or seed, are sequences of DNA (deoxyribonucleic acid) which provide a code for one or more traits or functions for the cells expressing the gene(s). Plant genetic resources include the reproductive or vegetative propagative material of a plant.

plant: any part of the flowers, seeds, or genetic or reproductive material of a flowering plant, cycad, conifer, fern or fern ally, moss, liverwort, algae, fungus, or lichen. Plant cultivated varieties (cultivars) in current use and newly-developed varieties, obsolete cultivars, primitive cultivars (landraces), wild and weed species, near relatives of cultivated varieties, special genetic stocks (including elite and current breeder’s lines and mutants).

prior art: knowledge already in the public domain or known in the world that is not protected by IPRs.

recombination: the rearrangement of genes.

species: a group of organisms capable of interbreeding naturally with each other but not with members of other species.

sui generis: Latin for ‘of its own kind’, unique, peculiar.

‘the south’: the developing or less developed countries including those in Africa, Latin America, the Middle East and Asia.

sustainable use: the use of components of biological diversity in a way and at a rate that does not lead to the long-term decline of biological diversity, thereby maintaining its potential to meet the needs and aspirations of present and future generations.

taxon (plural taxa): named taxonomic units to which individual organisms or groups of species are assigned such as species, genus, order, etc.

variety: any homogeneous and stable cultivar, clone, line, strain or hybrid able to be grown, and able to be defined and distinguished by the expression of particular characteristics resulting from a given genotype or combination of genotypes.