

Agro-Biodiversity Conservation

*Improving the policy framework for developing
climate change resilient agriculture systems in the
Caribbean.*

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The Importance of Agro-biodiversity Conservation Policy

A Productivity Need

- Agro-biodiversity is the preferred outcome from the interactions of Plant Genetic Resources, the host environment and farmers' management systems and farming practices.

An Encouragement

- *In response to the **uncertainty associated with climate change**, the Convention on Biological Diversity (CBD) encourages countries to design their own roadmap for increasing their capacity to cope with current and future challenges*

A Conviction

- *Such a roadmap will inevitably go directly through **biodiversity conservation in general and agro-biodiversity in particular***

Why must the Roadmap go through Agro-biodiversity Conservation

- *Diversity increases the range of options and innovations to expand production limits*

- A “**Climate-Change Resilient**” Caribbean Agriculture and Food System has to be

AN OPTIONS-RICH
AGRICULTURAL
SYSTEM



Five (5) Hurdles on the Roadmap to Agro-biodiversity Conservation

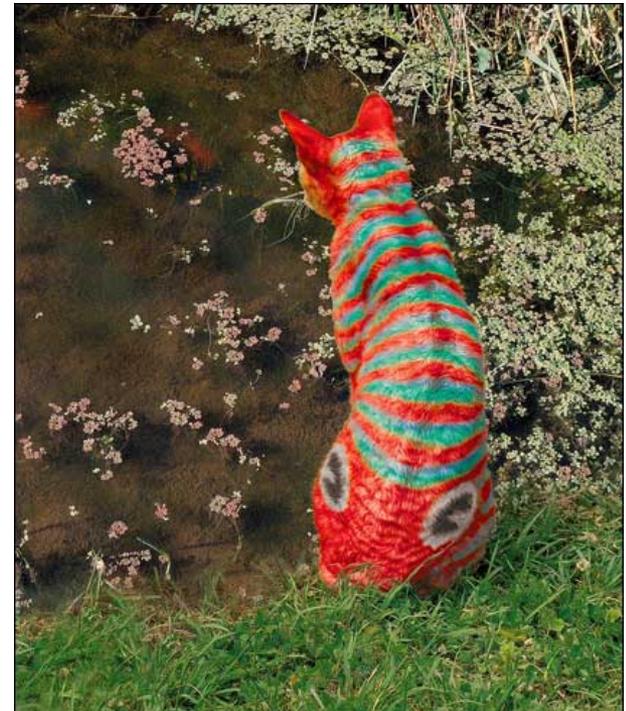
- 1) **Land use and land management systems** required to achieve a **biologically diverse landscape** do not necessarily coincide with those required to achieve an economically successful farm enterprise;
- 2) **Private and social values attributed to agro-biodiversity differ**, and more importantly market indicators and subsidy policies do not always seek to properly re-align these values
- 3) Breaking Down the **Intellectual Property Paradigm on PGR**
- 4) The ability of Caribbean Science to **effectively speak to common Agricultural Practice**
- 5) climate concerns of our Policy makers are usually **local, immediate and visible**

BIOLOGICAL CONSERVATION ON THE LANDSCAPE LEVEL

Landscape fragmentation by patches of agricultural activity and **species survival**.

We use the **legal structures** to make provisions based on:

- Rarity;
- Niche and Habitat;
- Dispersal ability; and
- Colonizing ability



Climate Change brings a new element into the Policy Mix

- First we have to define Climate Change
- Secondly we have to identify the ways in which climate change may be altering the business of conservation and management of these resources,
- Thirdly we have to examine the implications for genebank managers, genetic resource users

CLIMATE CHANGE AS GEOGRAPHIC RE-DISTRIBUTION OF CLIMATE PATTERNS

The Policy Implications

- the prospect that the results of similar modifications to the natural environment may have already been tracked and tested in other areas in the world, yielding results that are instructive
- **Need to develop a capacity to exchange data and experiences of landraces and wild crop relatives within our environment**

The Capacity to Engage in Sharing and Exchange starts with LOCAL CONTENT

The Second Report on the State of the World's Plant Genetic Resource for Food and Agriculture (PGRFA) Report

- That local PGRFA diversity found in farmers' fields or in situ is still largely *inadequately documented and managed*
 - *Specifically, more systematic collections are required for both wild and cultivated material and for species currently under-represented in gene banks*

CLIMATE CHANGE AS GEOGRAPHIC RE-DISTRIBUTION OF CLIMATE PATTERNS

■ **SUITABILITY CONDITIONS** are dominating **CAPABILITY CONDITIONS**



- **Species Migration**
- **Species Adaptation**

Be Careful

that the suitability conditions are changing just when you are starting to master the capability conditions



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CLIMATE CHANGE AS GEOGRAPHIC RE-DISTRIBUTION OF CLIMATE PATTERNS

FORECASTING BY ANALOGY

- Comparing observed adaptations to past climate extremes in different geographic locations, sectors, or time periods.
- At the initial stages of uncertainty, forecasting by analogy is the perfect platform for a structured approach to mitigation and adaptation.

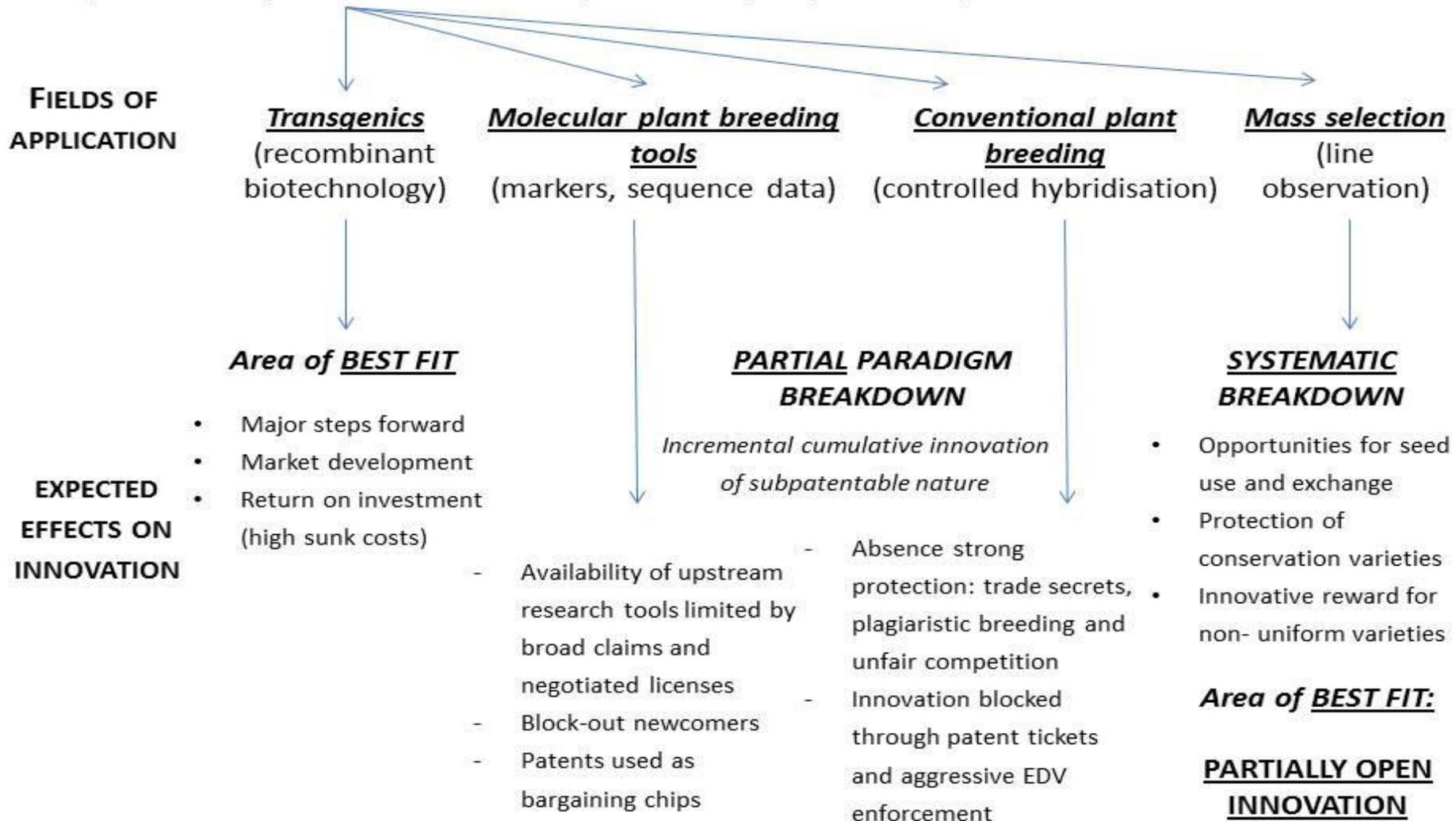
The Intellectual Property Paradigm Fit.

We are caught between Patents, Plant Variety Rights and Partially Open Innovation Systems Within The Intellectual Property Paradigm

There is a huge potential for the public to become part of a global biodiversity knowledge network as both contributors and beneficiaries,

STRONG INTELLECTUAL PROPERTY PARADIGM

(1991 UPOV protection and lenient patentability requirements)



**Source: The 1st Thematic Conference on “The Knowledge Commons”
Belgium, 12-14th September 2012**

Science speaking to Common Practice

- It is not a Public Relations Task.
- It is not going headlong into a conflict with agro-chemical technology
- It is not supporting the current “Making farming simple” approach of Chemical Agriculture
- **The relevant challenge is that:**
 - private and social values attributed to agro-biodiversity differ; and more importantly
 - market indicators and subsidy policies do not always seek to properly re-align these values.

Speaking to Common Practice is creating an information feed into strategic objectives such as:

- **Incentivizing behavioural changes** required to conserve and sustainably use natural resources
- **Cost/benefit assessments** of enterprise behavior that supports or reduces agro-biodiversity conservation.
- **Biophysical inventories of biodiversity** and ecosystem services;
- National accounts reflecting **the state of biodiversity** and ecosystem services;
- **Stocks and flows of natural capital**

So here is the story

- It is **the practices** that will build a more climate-change resilient agricultural system
- It is the **scientific knowledge** that will inform these practices
- It is in maintaining a **diverse agro-biological system** that will generate the maximum options for new scientific knowledge
- It is the policy measures that will encourage the **benefits** from agro-biodiversity conservation and reduce the **pressures** on biodiversity

So What is the Problem

Policy Decisions and Priorities



POLICY MAKERS CLIMATE CONCERNS ARE LOCAL, IMMEDIATE AND VISIBLE.



IT IS REALLY NOT A MATTER OF TAKING A CHANCE

HOW DO YOU ENCOURAGE POLICY MAKERS TO PAY ATTENTION



The Foreseeability Principle

- “In the Law of Negligence”, proximate cause [primary cause of injury] is established by proof that the actor, as a person of ordinary intelligence and circumspection, should reasonably have foreseen that his or her negligent act would imperil our food and agricultural systems

The Precautionary Principle

- encourages policy makers to make discretionary decisions in situations where their lack of taking a particular course of action or making a certain decision can result in irreparable harm to society

The Law of Negligence + The Precautionary Principle

Foreseeability and the *Precautionary Principle* implies

**A SOCIAL RESPONSIBILITY TO
PROTECT CARIBBEAN AGRICULTURE**

from exposure to harm, when scientific investigation has found a plausible risk

Improving the policy framework for developing climate change resilient agriculture systems

- **Respond at a level commensurate** with the magnitude of the need for adaptation;
- **Prioritize the support structure** for on-farm agrobiodiversity conservation;
- **Link farmers to new information** for risk management strategies;
- **Link Research Institutions to Policy/Governance**;
 - ❖ Such research needs to create an information feed into strategic planning objectives;
- **Coordinate activities across stakeholders** in the initial instance by analogies



**THANK YOU FOR YOUR
ATTENTION**