



Growing Innovation: An Agricultural Policy Perspectives

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Overview

- Relevant literature
- Research project
- Findings associated with funding and IP
- Options for research and policy

Innovation and scale

- Regional innovation systems (Piore and Sabel 1984, Storper 1997)
- National innovation systems (Cooke and Morgan 1992, Niosi 2001)
- Globalization (Harrison 1997, Dicken 2000)
- Looking at all of the scales simultaneously (Gertler 1997, Asheim and Isaksen 2000, Cooke 2002)

Knowledge flows

- Intellectual property
 - ‘tragedy of the public knowledge commons’ (David 2001, Foray 2002)
- Basic versus applied research
 - Rate of return of from basic agricultural research of between 20% and 67% (Scott *et al.* 2002)

The case of agriculture

- Biotechnology:
 - High tech
 - Targeted by federal government as part of agricultural policy
 - IP important
- Organic agriculture:
 - Management intensive
 - Not key in agricultural policy
 - IP not a big consideration
- Interviews

Some influences...

- Funding
- Intellectual Property (IP) policy and laws
- Organizational environment
- Infrastructure
- Network opportunities
- Regulatory considerations
- Normative issues

Funding: Common concern

- Matching funding requirement means that most research must have an applied focus
 - “Applied research is well-funded. Basic, non-medical research is not well funded. The only money for basic research is from NSERC. These are very small amounts. [Public researchers] cannot compete internationally with this kind of funding.”

Funding: Biotechnology issues

- Need for stable, long-term funding
 - “We need strong, uninterrupted funding for progress in long-term research. The constant worry about money is stressful”

Funding: Organic issues

- Unable to access adequate funding
 - Due to matching requirement and the lack of corporations
 - \$2.8 million in 2001 (0.95% of agricultural funding)
- Farmer based research
- Subsidies from other countries

IP: Biotechnology issues

- Some form of protection is necessary to stimulate the R&D needed for innovation
- Private innovators:
 - Local branch plant mentality
 - Value of IP locally and internationally:
 - “(IP) gives you currency, can trade it for what you need. Today cash is probably the least interesting piece of currency you can offer when interacting with other companies.”
 - “...driving IP into dark corners as IP has value.”

IP: Biotechnology issues

Public innovators

Local IP policy

Need for harmonization

Limited access to platform technologies and processes

“It is not always possible to gain access to the best IP or reagents to do the job. Companies often put unreasonable restrictions on access. Public institutions and government laboratories need sufficient resources to acquire or develop enabling technologies that allow them to compete with private companies.”

IP: Organic issues

- Access to seeds
- Increased public awareness of the food they are eating
 - “(The) biggest kick for organic food was the increased awareness of GMOs, the fact that industry can patent food. People lost confidence, had more questions about their food. In Europe Mad Cow disease woke people up, (the) spillover has raised questions here.”

Research considerations

- In general terms, there is evidence that by using a multiple scale perspective it is possible to understand an issue more in its entirety
- Holistic approach enables a better understanding of the influences that are necessary (none alone sufficient) for the creation of the ideal innovation environment

Policy initiatives...

- Remove the matching requirement for funding
- Engage in more basic research
- Increased understanding influences from multiple scales enables better decisions about which areas we want to target for innovation
- Target areas for growth where we can compete and are not constrained so severely by IP issues