

# Infringement and Innovation in respect of Access and Benefit Sharing in Areas Beyond National Jurisdiction

Professor Norman Siebrasse  
Faculty of Law  
University of New Brunswick  
Canada

## Innovation

- Patent system is heavily criticized for impeding innovation
  - Patent trolls
    - US Federal Trade Commission Report “The Evolving IP Marketplace” (2011)
  - Patent thickets
    - Hall, et al “A Study of Patent Thickets” Report Prepared for the UK Intellectual Property Office (2012)
- Will ABS regime promote or impede innovation?

## Need for Clear Ex Ante Rights

- You want to build a retirement home on a lake without road access
  - Need to negotiate road access with neighbour
- Price for road access will be
  - Low if negotiated before home is built (ex ante)
  - High if negotiated after home is built (ex post)
- If you cannot negotiate ex ante, you will build elsewhere

## Need for Clear Ex Ante Rights

- Ex ante negotiation requires that neighbour's rights are
  - Clear
  - Ex ante
- It must be possible to find all prior rights before building

## Chilling Effect of Patents

- Patent rights are not always clear ex ante
  - Difficult to find relevant patents
  - Difficult to know if you will infringe
- Chilling effect results
  - Favours large corporations
  - Patent trolls

## ABS Right

- Will ABS regime be like patent system?
  - Chilling effect on MGR based innovation?
    - Less benefit to be shared
  - Chilling effect on biological research generally?
- Depends on the scope of the right

## ABS Right

- Existing ABS regimes turn on
  - Prior informed consent (PIC)
  - Material agreed terms (MAT)
- What happens when things go wrong?
  - Will it be possible for researcher to determine in advance whether PIC and MAT is needed?

## ABS Right

- More generally
  - Is ABS right clear?
    - Will it be possible for researcher to determine that it benefitted from MGR?
  - Is ABS right clear ex ante?
    - Will it be possible for researcher to determine in advance that it benefitted from MGR?

## Examples

- Does the ABS right encompass the described activity?
- If the ABS right does encompass the activity, would the party be able to contract ex ante?
- If the ABS right does not encompass the activity, would the party be sure that this could be proven?
  - Is a party who did not infringe, be at risk of an adverse finding

## Example 1

- A university researcher identifies gene from a snail (Snail A) responsible for producing conotoxin that has analgesic properties.
  - This information is published.
- A private company reads the article and uses conotoxin from a snail of the same species (Snail B) as the lead compound in research
  - Resulting in a successful pharmaceutical.

## Example 2

- Must the company share the benefits of the pharmaceutical if:
  - 1) The species of snail is found only in territorial waters?
  - 2) The snail is found only in ABNJ?

## Example 3

- Must the company share the benefits of the pharmaceutical if the snail is found in all ocean environments and Snail A and Snail B were:
  - 1) Both captured in territorial waters?
  - 2) Both captured in the ABNJ?
  - 3) Snail A was captured in the ABNJ, but Snail B was captured in territorial waters?
    - Does it matter whether the company knew where Snail A was captured?

## Example 4

- A university researcher identifies gene from a snail (Snail A) responsible for producing conotoxin that has analgesic properties.
  - This information is published.
  - Snail A is found only in the ABNJ
- A private company harvests conotoxin from a snail of a different but related species (Snail B) as the lead compound in research
  - Resulting in a successful pharmaceutical.
  - Snail B is found only in territorial waters

## Example 4 (cont'd)

- Must the company share the benefits of the pharmaceutical if
  - 1) The company did not know of the article about Snail A
  - 2) The company did know of the article about Snail A
    - i) and that article was the reason it investigated the Snail B species
    - i) but it was already investigating the Snail B species and had already discovered the analgesic properties

## Example 5

- The genome of a fish found only in the high seas is sequenced.
- The genome of a related species found in fresh water is also sequenced. The fresh water fish is slower growing.
- By comparison of the two genomes, a gene is discovered in the fresh water fish which inhibits growth.

## Example 5 (cont'd)

- Using marker-assisted breeding, a new variety of the fresh water fish is developed in which that gene is suppressed, so that it grows faster.
- The new fast-growing variety does not have any genetic material from the high seas fish.
- 1) Does the new fast-growing variety of the fresh water fish infringe the ABS right?



## Example 5 (cont'd)

- Suppose the high seas fish is found both in ABNJ and within territorial waters.
- 2) Does it matter where the particular fish used as the source of genetic material is caught?

## Example 6

- The genome of a fish found only in the ABNJ is sequenced and entered into a comprehensive database of genetic sequences of fish.
- An analysis of the database reveals a highly conserved region in a gene known to be associated with gill development.

## Example 6

- The region is present in the high seas fish in question, but it is also present in thousands of other fish in the database
- The conserved region would have been identified even if that particular genome was not part of the database.

## Example 6

- This conserved region is discovered to code for the membrane that allows fish to extract oxygen from water.
- This is used by a private company to develop a new form of medical blood oxygenation system.
- Must the company share the benefit of the oxygenation system?

## Problem

- Knowledge can be easily disseminated
  - Difficult to track origin
- For that reason, knowledge itself can't be patented
  - Eg European Patent Convention Art 52(2)
- Will ABS right give right in knowledge as such?

## Remedies

- Is injunctive relief available for infringement of ABS right?
  - Injunctive relief currently controversial
  - Hold-up problem if rights are not clear ex ante
- If injunctive relief is not available, how is equitable sharing to be assessed?
  - Ex ante predictability required to minimize risk
  - But-for causation is established principle
    - Difficult to implement in multi-causal systems