Addressing the Management of Outer Space Through Antarctic Experience

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• Summary of yesterday;
  - Deficiencies,
  - Gaps,
  - Ineffectiveness,
  - Emerging legal issues and challenges,
  - Initiatives to address space mining
  - Long-term sustainability of outer space
  - UNISPACE +50 Agenda – Thematic priorities 2

    Legal regime of outer space and global governance
Drawn by Paul-Emile Victor,
«L’homme en Antarctique félicite le premier Américain sur la Lune », 1969*

Outline

I. Introductory Remarks
- What we talk about when we talk about management?
- Why Antarctica?

II. Method of the Study: Analogy or Comparison?
- The difference between analogy and comparison

III. Comparison of Management Mechanism of Both Areas
- Rule-based Comparison
- Institution-based Comparison

IV. How to benefit from Antarctic Experience
I. Introductory Remarks

Management:

Management is a set of principles relating to the functions of planning, organizing, directing and controlling, and the application of these principles in harnessing physical, financial, human and informational resources efficiently and effectively to achieve organizational goals.¹

Legal Instruments

- Governing mechanism

¹ [https://www.managementstudyhq.com/what-is-management.html](https://www.managementstudyhq.com/what-is-management.html)
I. Introductory Remarks

Why Antarctica?

- IGY – 1957 – 1958: Development of technology and the activities
- Sovereignty question
- Common interest of mankind
- Freedom of use and scientific investigation
- Use for Peaceful purposes
- 1959 Antarctic Treaty to 1967 Outer Space Treaty
II. Method of the Study: Analogy or Comparison?

➢ Analogy
• Problem-solving method in law. Permits transfer of principles and rules from a well established field to less developed field.
• When two fields are significantly similar.
• To fill gaps of the second field.

➢ Comparison
• Link up a connection between two fields
• Identify, analyze and explain similarities and differences
• To look to law from broader perspective
• Produce information for law-making and policy making
Comparison

International Space Law and Governance

- The UN Space Treaties
- Declarations, Principles etc.
- UNCOPUOS + UN GA + and other organizations

Antarctic Treaty System

- Conventions (Conservation of Antarctic Seals + Conservation of Antarctic Marine Living Resources)
- Antarctic Treaty Consultative Meeting (ATCM) + Committee for Environmental Protection
- Standing Committee on the Antarctic Treaty System (SCAR)

Management Comparison: Rule-based and institution based
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Rule-Based Comparison

Non-appropriation

*The UN Space Treaties*

- OST Art. I – “province of mankind”
- OST Art. II – “not subject to national appropriation by claim of sovereignty”

*Antarctic Treaty System*

- Four groups of claims can be identified
- AT Art. IV – “Freezing of claims”
Rule-Based Comparison

International Co-operation

• Both legal regime are based on international cooperation

The UN Space Treaties

• Preamble: “... desiring to contribute broad international cooperation...”

• OST 1/III: “... states shall facilitate and encourage international cooperation...”

• OST III: “... promoting international co-operation and understanding.”

• OST Art. X: “In order to promote international co-operation...”
Rule-Based Comparison

*Antarctic Treaty System*

- AT Preamble: ... contributions to scientific knowledge resulting from international cooperation…”

- AT Art. III: “In order to promote international co-operation in scientific investigation in Antarctica ... to the greatest extent feasible and practicable:
  - Exchange of information,
  - Exchange of scientific personnel,
  - Exchange of scientific observations and results, available for free”
Rule-Based Comparison

Right to Visit and Observation

*The UN Space Treaties*

- OST Art. X: - Request of observation of flights of space objects on the basis of equality
  - agreement for the nature and conditions of observation

- OST Art. XII: - All stations, Installations, equipment and space vehicles are open
  - on a basis of reciprocity
Rule-Based Comparison

*Antarctic Treaty System*

- AT Art. VII: - Observers have complete freedom of access
  - All areas of Antarctica, all stations, installations and equipment within those areas,
  - All ships and aircraft points are open at any time.
  - Aerial observation is limited – contracting parties have right to designate observers.
Rule-Based Comparison

Freedom of Exploration and Use

*The UN Space Treaties*

OST I – Freedom of use and exploration on the basis of equality for the benefits of mankind.

- Freedom of Scientific investigation by civil or military personnel.

*Antarctic Treaty System*

AT Art. II – “Freedom of scientific investigation and cooperation ... shall continue...”
Rule-Based Comparison

Peaceful Use

*The UN Space Treaties*

- OST Art. IV: Prohibition of nuclear weapons and any other kinds of weapons
- Installation, fortification, testing of any type of weapons, conduct of military activities
- Freedom of scientific research by military personnel

*The ATS*

- AT Art. I: - Peaceful purposes
  - Any measures of a military nature such as establishment of military bases and fortifications, military maneuvers, testing of any type of weapons.
Rule-Based Comparison

Exploration, Exploitation and Utilization of Natural resources

The UN Space Treaties

• OST is silent

• The Moon Agreement Art. IX – common heritage of mankind

Antarctic Treaty System

• Madrid Protocol Art. VII: “Any activity relating to mineral resources, other than scientific research, shall be prohibited.”
Rule-Based Comparison

Environmental Protection

*The UN Space Treaties*

OST IX: “... to avoid their harmful contamination and also adverse changes in the environment of the Earth resulting from the introduction of extraterrestrial matter ... shall adopt appropriate measures...”
Rule-Based Comparison

Antarctic Treaty System

• AT Art. V – “Any nuclear explosions and disposal there radioactive waste material shall be prohibited.”
• Madrid Protocol – Antarctica as a natural reserve
  - principles for planning and conduct of activities
  - requires prior assessments of environmental impacts of proposed activities.

Annexes:  - Environmental Impact Assessment
  - Conservation of Antarctica and Fauna
  - Waste disposal and waste management
  - Prevention of Marine pollution
  - Area protection and Management
  - Liability arising from Environmental Emergencies
Rule-Based Comparison

Demarcation

The UN Space Treaties

• Covers outer space, the Moon and the other celestial bodies
• No demarcation and delimitation between air and outer space

Antarctic Treaty System

• AT Art. VI – “provisions of the present treaty shall apply to the area south of 60° Latitude, including ice shelves…”
Institution-based Comparison

- UN and UNCOPUOS and other organizations
- UN COPUOS → UN GA 4th Committee → UN GA Resolution
- Scientific and Technical Subcommittee
- Legal Subcommittee
- Consensus → Report of the Subcommittees → Report of the UNCOPUOS
- 92 member states
- Observers
Institution-based Comparison

ATCM + CEP + SCAR

• The Antarctic Treaty Consultative Meeting:
  - 1961 – 1994 every two years, 1994 – present annually

• The meetings consist of:
  - The Consultative parties
  - non-consultative parties
  - observers
  - Invited experts

• Measures, decisions and resolutions – by consensus
Institution-based Comparison

The Committee for Environmental Protection

• Established Art. 11 by Madrid Protocol
• Advice and formulate recommendations to the Parties to implement the Protocol

• Intersessional Groups
  - ICG to review the Antarctic Clean-Up Manual
  - Subsidiary Group on Management
  - Subsidiary Group on Climate Change Response

• Special Committee on Antarctic Research
Benefit From Antarctic Experience

? Law-making policy
- Evolution of legal regimes through thick cooperation
- Natural resources
- Environmental protection
- International Cooperation

? Institutional governance policy
- Decision making
- Effective address to the emerging issues
- Confidence-building solutions
- Peaceful problem solving