

Appendices

Strategic Pathway 2: Policy and Legal

APPENDIX 2.1: Common Legal Terms

Some of the common legal terms are as follows¹:

<u>Assignment</u>	The act by which one person transfers to another, or causes to vest in that other, the whole of the right, interest, or property which he has in any realty or personally, in possession or in action, or any share, interest, or subsidiary therein.
<u>Attribution</u>	The action of ascribing a work or remark to a particular author, artist, or person.
<u>Best practice</u>	Commercial or professional procedures that are accepted or prescribed as being correct or most effective.
<u>Breach</u>	Failure to live up to a term or the terms of a contract.
<u>Commercial</u>	Making or intended to make a profit.
<u>Compensatory damages</u>	A sum of money to replace what was lost.
<u>Consequential damages</u>	Damages that can be proven to have occurred because of the failure of one party to meet a contractual obligation.
<u>Copyright</u>	A right granted by statute to the author or originator of certain literary or artistic productions, whereby he/she is invested, for a limited period, with the sole and exclusive privilege of multiplying copies of the same and publishing and selling them.
<u>Covenant</u>	Promise of two or more parties, which either of the party's pledges to the other that something is either done or shall be done or stipulates for the truth of certain facts.
<u>Decree</u>	An official order issued by a legal authority.
<u>Derivative product</u>	A work taken from existing works that is copyrightable.
<u>Exclusive use</u>	Use of the geospatial information is limited to the Licensee for the term of the license.
<u>Executive order</u>	A rule or order issued by the president to an executive branch of the government and having the force of law.
<u>Force majeure</u>	An event that no human foresight could anticipate or which, if anticipated, is too strong to be controlled. Examples include earthquakes, tsunamis, lightning,

¹ Definitions were developed from several sources, including <http://thelawdictionary.org/>, <http://legal-dictionary.thefreedictionary.com/>, <https://definitions.uslegal.com/r/representation/>, and <https://en.oxforddictionaries.com>

	or other events which make performance impossible or extremely impracticable.
<u>Indemnification</u>	To guarantee through a contractual agreement to repay another party for loss or damage that occurs in the future.
<u>Indirect damages</u>	Damages that are the necessary and connected effect of the wrongful act.
<u>Law</u>	A rule of conduct or action prescribed or formally recognized as binding or enforced by a controlling authority.
<u>Legislation</u>	Proposed law or laws.
<u>Liability</u>	Being responsible to pay or compensate for something by law, or to be otherwise legally responsible.
<u>License</u>	A permission, accorded by a competent authority, conferring the right to do some act which without such authorization would not be permitted.
<u>Licensee</u>	An entity to whom a license has been granted.
<u>Licensor</u>	An entity who gives or grants a license.
<u>Metadata</u>	A set of data that gives information about other data.
<u>Non-commercial</u>	Not have a commercial objective, such as making a profit.
<u>Norm</u>	A standard or pattern, especially of social behavior, that is typical or expected of a group.
<u>Ordinance</u>	An authoritative order or decree.
<u>Policy</u>	A course or principle of action adopted or proposed, often by a government agency.
<u>Precision</u>	The closeness of two geolocated items to each other.
<u>Product liability</u>	The legal liability a manufacturer or trader incurs for producing or selling a faulty product.
<u>Public domain</u>	The state of belonging or being available to the public as a whole, especially through not being subject to copyright or other legal restrictions.
<u>Publish</u>	Communicating a work.
<u>Punitive damages</u>	Damages exceeding simple compensation and awarded to punish a party.
<u>Regulation</u>	A rule or order issued by an executive authority or regulatory agency of a government and having the force of law.
<u>Representation</u>	A statement of fact made with the purpose of getting someone to become party to a transaction or contract.

<u>Rule</u>	One of a set of explicit or understood regulations or principles issued by a government agency.
<u>Special damages</u>	Extra damages that are awarded to a plaintiff over the loss of his/her property after considerations of the circumstances.
<u>Standards</u>	An agreed way to do something.
<u>Trade secret</u>	Intellectual property like know-how, formulas, processes and confidential information giving the owner a competitive advantage.
<u>Treaty</u>	A formally concluded and ratified agreement between countries.
<u>Warranty</u>	A promise that something in furtherance of the contract is guaranteed by one of the contractors, especially the seller's promise that the thing being sold is as promised or represented.
<u>Work</u>	A literary, artistic or musical composition such as an image, audiovisual material, text, or sound.

APPENDIX 2.2: Review and Assessment – Considerations

There are several important considerations when developing an appropriate policy and legal framework for integrated geospatial information management. They include:

- a) **Geospatial ecosystem:** The geospatial community within a jurisdiction can be considered an ecosystem, consisting of stakeholders in government, industry, academia, and NGO's. Private citizens also are playing an increasingly important role in this ecosystem. Each stakeholder in the ecosystem is often both a data collector and data user, sometimes at the same time. As a result, laws and policies that are designed to regulate the collection or use of geospatial information in one segment will often have an impact on other segments. For example, government often rely on the private sector to collect certain types of geospatial information. Laws that limit industries ability to collect that information likely will result in less information being available for government use. If the law allows industry to collect geospatial information but only allows the data to be shared with government agencies, it will result in the government paying more for the data as industry will not be able to achieve its desired rate of return on an investment without private sales. Similarly, limiting the ability of private citizens to collect geospatial information will result in that the government not being able to receive important information that could be used to improve government services or provide other societal benefits, such as monitoring climate change.
- b) **Laws impacting geospatial information management:** There are a number of different laws and policies that must be considered when considering geospatial information management. Some apply to the government agencies that are responsible for the collection of geospatial information within a jurisdiction. For example, surveying is often regulated by one government body while another agency may be responsible for developing the national data infrastructure. Each play an important role in geospatial information management. In addition, there are a number of laws, including contract law, intellectual property law, national security law, liability and privacy laws that indirectly impact the collection, use and distribution of geospatial information. These must be considered as well. Also, there a growing number of platforms (i.e. satellites, aircraft, mobile devices, internet of things) that collect geospatial information that are often subject to their own regulatory oversight. As a result, developing a policy and legal framework for geospatial information management is a complex and timely endeavor.
- c) **Policy instruments:** When the geospatial community discusses policy and legal frameworks, there is often an assumption that what is needed is an overarching law that addresses all the key issues. However, an expansive law is only a tool in creating or revising a policy and legal framework for geospatial information management. There are many other instruments that should be considered. Some of these instruments, like laws, are binding. However, others are non-binding, but instead are more informal and based upon consent. While some of these instruments can be used in both the public and private sectors of the geospatial ecosystem, others are applicable only to one sector. It is important for the geospatial community and its stakeholders to understand the role of each, their relative strengths and weaknesses and how they apply within their jurisdiction.

- d) **Legal system:** Legal systems between jurisdictions vary greatly. Some jurisdictions' legal systems are based upon common law, while others are civil law based. Some have strong executive leadership, while others have strong legislative bodies or parliaments. Some governments have centralized authority, while others have a more federated approach – with local authorities having great authority. Each also has its own nomenclature to define legal documents, such as laws, decrees, ordinances, edicts. A policy and legal framework needs to align with a jurisdiction's existing legal system in order to be effective.
- e) **Types of geospatial information:** Geospatial information consists of a variety of different data types (please refer to SP4: Data). The data are collected by different organizations, used by different consumers for different purposes and have unique properties and legal risks. Each of these factors must be considered and addressed as appropriate.
- f) **The use of geospatial information:** The power of geospatial information is in part based upon its versatility. A single data set can be used for a variety of different purposes. This is challenging from a legal standpoint because while one use may be beneficial to a society, another use may be considered as a threat. It can be challenging to develop a policy and legal framework that enables the beneficial uses while protecting against the risks.
- g) **Laws and policies that balance risks and benefits:** In most instances, a policy and legal framework must balance potential benefits with perceived risks. While the geospatial communities will generally agree as to the benefits of collecting and sharing geospatial information, there are significant differences between jurisdictions as to the potential risks. Some are more concerned about the potential privacy risks, others are more concerned about national security.
- h) **Changing geospatial technological landscape:** The technology for the collection, use, storage and distribution of geospatial information is rapidly changing. As a result, a policy and legal framework must be flexible to make sure that these new and innovative technologies can be effectively utilized while still addressing any potential concerns and risks.
- i) **Changing societal and personal norms:** Data and information is creating new social, economic and political dynamics and changing the relationship with civil society. A sound and enabling legal and policy environment has to keep pace with fast changing economic, societal and personal landscapes.

Due to these considerations, there is no single prescribed policy and legal instrument that can be used for all countries. Each country must review, assess, understand and develop its own framework so that it addresses the unique legal system, culture, history and circumstances of the country.

APPENDIX 2.3: Review and Assessment – Questions

The following are examples of the types of questions that a policy and legal review group or committee or council should consider in the review and assessment process, as well as in creating a policy and legal inventory:

- Is there a policy or law that identifies a lead organization for geospatial information management within the government?
- Has the country entered into any treaties or regional agreements or bilateral arrangements that could impact utilization of geospatial information?
- What rights do sub-national authorities have to regulate the collection, use, storage, distribution of geospatial information?
- Are there laws and regulations that specifically restrict or regulate the collection of geospatial information, including the relevant platforms and/or sensors (e.g. unmanned aerial system)?
- Are there policies, laws, regulations, etc. that specifically restrict or regulate the collection, use, storage or distribution of geospatial information?
- What intellectual property protections do geospatial products receive?
- Is there a data protection law? If so, does it include geospatial information?
- Are there policies or laws that limit the collection or use of geospatial information for national security reasons?
- How is data shared between government organizations? Are there policies, laws or regulations that impact such sharing?
- Is there a standard data sharing/license agreement used between government agencies or between the government and third parties (provincial, municipal or local government agencies, academia and research institution, private sector, civil society and the public, etc.)?

APPENDIX 2.4: Use Case – An Example

A use case by the United Nations Working Group on Legal and Policy Frameworks for Geospatial Information Management is provided as an example.

Use Case

1. Many parts of Country A are suffering from a drought, which is leading to starvation in several parts of Country A. As a result, several thousand citizens from Country A have migrated to Country B and Country C, which also borders Country A. Some experts predict that tens of thousands of others will attempt to cross the borders in the next several months if the situation in Country A does not improve. Countries B and C are seeking help in better understanding how many refugees they are likely to receive and where.
2. Civil unrest in Country A has resulted in damage to a chemical storage facility, with some toxic chemicals being released into the atmosphere. Although Country A claims that the chemical storage facility was being used solely to produce chemicals for commercial and agricultural use, some military experts outside of Country A believe that chemical weapons are stored there as well.
3. The United Nations and various Non-Governmental Organizations (NGOs) are trying to understand the extent of the drought and food shortage in order to determine how much aid is needed and where it should be sent. They also want to share this information with the governments of Countries B and C so they can better prepare for the refugees. The entire international community is interested in learning the composition of the chemicals that have been leaked and how far and in what direction the chemicals are likely to spread.
4. Countries A, B and C and other stakeholders from around the globe will require vast amounts of geospatial information to help answer these questions. However, Country A's has limited capabilities to collect, process and use geospatial information. In addition, the International Charter on Space and Major Disasters has not been activated due to the slow-moving nature of a drought. As a result, the needed information will need to come from government agencies, industry and transnational organizations from around the globe. A number of different types of geospatial information will be required to address these issues, collected from many types of sensors, and deployed on several different platforms – i.e. satellite, air (both manned and unmanned) and ground-based). In addition, smart phones could also collect and share valuable geospatial information.
5. The stakeholders wish to create geospatial products and services by aggregating the different types of geospatial information. In some cases, this information will be publicly available, but in most cases it must be obtained (i.e. licensed) from either industry or government sources.

Assume you are the senior lawyer in the government agency of Country A and that the legal and policy framework is identical to yours. Please be prepared to address the following questions at our next meeting.

1. OpenStreetMap has offered to come in and work with local communities to map areas impacted by the drought. Are there any laws or policies in your country that would restrict them from creating these maps or sharing them with others outside of the country?
2. A commercial satellite imagery provider has offered to donate high resolution satellite imagery to your agency but is asking for a license that is very restrictive on transfer to other government agencies, re-use and/or derivative products. You have been asked what rights you need in the satellite imagery in order to develop effective products and services to address the drought?
3. Several NGO's have asked permission to operate drones over the country to collect data on the chemical release and share this with a number of countries around the globe so that they can prepare in case the chemicals enter their atmosphere. What legal issues do you see.
4. Your military department wishes to use geolocation data from mobile phones to identify and monitor the movement of refugees. It has asked the mobile phone carrier to turn over all of its records. You have been asked if there are any legal issues that need to be considered.



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United Nations Secretariat
Global Geospatial Information Management

Working Group on
Legal and Policy Frameworks for Geospatial Information Management

Positioning geospatial information to effectively address global challenges

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APPENDIX 2.5: Gaps and Opportunities Analysis – Tabletop Exercise

(The example for organizing a tabletop exercise is forthcoming)

APPENDIX 2.6: Gap Analysis Matrix

An example of a gap analysis matrix for analyzing policy and legal gaps and opportunities.

Topic	Current Capability	Goal	Gap in Capability	Possible Strategies
Data collection	<i>E.g.: Where we are now - What Can't be done? What is missing in terms of the ideal or desired situation</i>	<i>E.g.: The ideal or desired situation:</i>	<i>E.g.: The gap to be filled between the ideal or desired situation and where we are now.</i>	<i>E.g.: The policy and legal actions that need to be performed to address the gap in capability</i>
Data storage and management				
Data Protection				
Data sharing				
Licensing arrangement				

Topic	Current Capability	Goal	Gap in Capability	Possible Strategies
Data governance				
Intellectual Property Rights Management				
Privacy				
Sensitive information/ National security consideration				

APPENDIX 2.7: Policy and Legal Instruments - Advantages and Disadvantages

When implementing the Integrated Geospatial Information Framework, it is important for the government, partners, users and stakeholders to understand the role of various policy and legal instruments available, their relative strengths and weaknesses and how they apply within their country. The following information is provided to assist countries in understanding the difference between legislation and laws, contracts and other agreements, and treaties and other international obligations, and their advantages and disadvantages:

- **Legislation and laws:** Although laws can be generated or created in a number of different ways, each have several similarities, including:
 - They tend to have the most force: Once created, a well-crafted law is a powerful tool to make sure that third parties comply. The penalties for failing to comply will vary, but often simply having a law helps create compliance.
 - They can take a long time to create: Because laws are binding, and can have a broad impact, it can take a long time for a law to be created. Often, several parties will have to review and approve the passage of a law. In addition, concerned stakeholders will be asked to provide input. If there is a financial impact, budget authorities will be consulted.
 - Poorly crafted laws can hinder geospatial information management: Because the process of creating laws often means getting input from other stakeholders that might be affected, there is no guarantee that a law, once it is finalized, will be as originally drafted. It may not even be suitable for its intended purpose. For example, it may delegate authority to other government organizations, it may not provide sufficient funding, or it may impose additional obligations that are difficult to comply.
 - They can take a long time to change: For the same reasons that it takes time to create a law, it often takes a long time to change a law. This is particularly a problem for the geospatial community given the technological development that provide new and innovative ways to collect, share and use geospatial information. It can be difficult to change an old law that prohibits or hinders such use.
- **Contracts and other agreements:** Contracts and other forms of agreements between parties can also be an instrument of a policy and legal framework that enables the utilization of geospatial information. Most such agreements are legally enforceable. These include contracts for data collection, license agreements, data sharing agreements and cloud storage agreements. For example, a government organization may enter into a license agreement to acquire rights in satellite imagery from a commercial provider. It may also pay an unmanned aerial system operator to collect geospatial information.

There are several benefits to using an agreement to address legal issues that restrict or limit geospatial information management. One benefit is that an often takes less time to negotiate and sign an agreement. For example, if a country's privacy law does not provide sufficient protection, requirements and conditions to protect data can be included in an agreement.

Agreements also are much easier to change or update to address developments in technologies or applications. (Note: treaties, are another example of a type of agreement that can be legally enforceable, although negotiating treaties can often be lengthy.) Another benefit of an agreement is that it can be used by organizations in both the public (i.e. government organizations) and private sector.

However, agreements have several limitations. One limitation is that typically they only are enforceable between the organizations that enter or are a party to the agreement. In addition, agreements generally will terminate after a certain period, after which they must be renegotiated. As a result, although they play an important role in a policy and legal framework that enables geospatial information, that role can be limited.

- **Treaties and other international obligations:** Countries are parties to a number of binding international obligations. Many of these will impact geospatial information management within a country. For example, 176 countries are signatories to the Berne Convention for the Protection of Literary and Artistic Works, which protects the intellectual property rights of certain geospatial information products and services². Similarly, in 1986 the United Nations General Assembly adopted the UN Principles Relating to Remote Sensing of Earth from Space (the “Principles”)³. Although not a formal treaty, a number of countries follow the Principles, in addition to more formal treaties involving space-related activities, when developing a satellite remote sensing program.
- **Policies, norms and guides:** Policies, executive orders, administrative measures, norms and guides often tend to be aspirational. They are useful because they are relatively easy to publish, and they can be changed or updated fairly easily. However, they can be difficult to enforce because they often they lack the force of law. When considering policy, it is important to consider the best route to introduce these policies, by embedding geospatial policy in other policies (such as e-Government or information communication technologies policies) or by establishing specific geospatial information policy instruments.

Norms and good (best) practices are informal mechanisms as well. These include proven and good practices and norms, generally from community of interests. Easy to adopt and implement but they don’t have force of law.

- **Standards:** Standards (please refer to SP 6: Standards) are another example of a non-legally binding instrument that can impact a policy and legal framework for integrated geospatial information management. For example, the Open Geospatial Consortium has published standards that facilitate the sharing of geospatial information between organizations. The adoption of these standards by key government organizations responsible for geospatial information management will have a broad impact across a country’s geospatial ecosystem. Government organizations can also make standards binding by including them into their contracts with vendors.

² <https://www.wipo.int/treaties/en/ip/berne/> (accessed December 1, 2018)

³ <http://www.un.org/documents/ga/res/41/a41r065.htm> (accessed December 1, 2018).

There are a number of benefits associated with non-binding provisions. One of the primary benefits is that they are much easier to develop and implement than laws and regulations. As a result, they can be more flexible which makes them easier or adoption. They also can remain in force longer than an agreement and can apply to both the public and private sectors. In addition, they are the easiest to modify to adapt to new technologies or legal issues that may arise.

However, there also limitations that must be considered. Since these non-binding provisions do not have the force of law, they generally cannot be enforced in a court. Also, they usually only apply to a limited group that has self-selected to abide by them. However, market pressure and integrating non-binding provisions in formal legal instruments (such as including standards in contracts) can increase their adoption.

The binding and non-binding instruments work together to form a policy and legal framework for integrated geospatial information management. As discussed above, there is no “one size fits all approach” that a country can adopt. However, there are examples that a country can analyze, consider, to see what instruments can be adopted into their policy and legal framework.

APPENDIX 2.8: Assessing Fitness for Purpose for a Policy

Fitness for purpose for a policy means that the policy is clear about what outcomes it should achieve and sets out how these outcomes will be delivered. To do this effectively the policy must support the work of the government and its organizations, align with the country's national vision, strategic priorities and programs, and easily understandable, accessible and implementable to the people the stakeholders and users (see SP7: Partnership). An example of a set of assessment criteria can be:

1. Is the policy clear about what outcome it is intended to deliver and how it supports the government and its organization in its overall direction?
2. Is it easy to understand what must be done to implement and comply with the policy?
3. Does the policy take account of the wider agenda of government policy for integrated geospatial information management?
4. Does the policy make clear reference to and fit within the country's legal system?
5. Does the policy make clear links to other relevant policies so that it 'fits' with the overall direction of government and its organization, and avoids giving out contradictory messages?
6. Does the policy draw on a relevant evidence base to support assumptions?
7. Has the policy been subject to a diversity impact assessment?
8. Is it clear who owns the policy, its effective date, and the duration?
9. Has the policy been shaped by the involvement of and consultation with a range of stakeholders?
10. Is the policy clear and concise?

APPENDIX 2.9: Managing Intellectual Property Rights

The following principles can be considered when introducing intellectual property rights management:

- **Public interest:** Government grants rights to its intellectual property, as a public asset, in a manner that maximizes its impact, value, accessibility and benefit consistent with public interest.
- **Uphold law:** Third party intellectual property is acquired and used in a transparent and efficient way, while upholding the law and managing risk appropriately.
- **Intellectual property management:** Intellectual property is managed using appropriate systems and processes that identify, record and safeguard intellectual property rights in an effective, efficient and ethical manner.
- **Risk mitigation:** Procedures are applied to reduce the risk of infringement of the intellectual property rights of others.
- **Review:** The overall effectiveness of policies and practices for the management and use of intellectual property is periodically assessed.
- **Training:** Intellectual property management is supported by appropriate training and resources, including access to expert advice.
- **Innovation:** Intellectual property management recognizes innovation and creativity in a manner consistent with country's innovation objectives.
- **Contracts:** Contracts and other agreements must address intellectual property rights issues where relevant.
- **Creative commons:** Consistent with the need for free and open re-use and adaptation, government information is licensed under the Creative Commons BY standard as the default.
- **Commercialization:** Commercialization or disposal of intellectual property is managed under appropriate legislation, policies and/or guidelines.

APPENDIX 2.10: Addressing Sensitive Information

Example guidelines for addressing sensitive information:

- **Licensing:** A condition of all licenses to use geospatial data that contains personal information is that the license holder is accountable under privacy legislation.
- **Open access:** Open access to geospatial data takes precedence over restricted access unless there are specific, compelling reasons to restrict access.
- **Restricted access:** Decisions on restricting access are based on privacy, commercial sensitivity, national security, environmental sensitivity or legislative requirements.
- **Discretionary access:** Sensitive data may be generalized to meet user needs while not compromising any sensitive issues.
- **Controlled access:** Controlled access are used in cases where sensitive information is in the public interest, such as for emergency management and national security.
- **Public scrutiny:** Data restrictions are explicitly defined in a policy, law or regulations that are open to public scrutiny and not left to individuals to decide on a case by case basis.
- **Metadata management:** Data custodians will advise of any access restrictions through accessible metadata records.

Some examples of policy and legal instruments for managing sensitive information, depending on circumstances, may include:

- Information classification (Table 2.9.1)
- A policy or law for information classification
- Appropriate data licensing provisions
- Data release guidelines, approval processes and checklists
- Mechanisms for dealing with a policy and legal breach

Classification	Explanation
Unofficial:	Information unrelated to the official work of Government e.g. personal emails; third-party newsletters
Official:	Official information created or processed by the public sector as part of the business of Government. This includes information received as well as generated e.g. routine business emails; service delivery information; briefings; correspondence
Official (Sensitive):	Official information that could result in damage to individuals, organisations or government if released. This will be the highest level of classification for information that is not covered under other arrangements with other jurisdictions e.g. individuals' private information; Cabinet-in-Confidence documents; commercially or legally privileged documents.

Classified (National Security):	Information covered under existing arrangements for managing classified materials shared between government organizations, central and provincial governments or between countries. This classification is intended for organizations that already understand what the classification mean, as an example, national security information shared directly by the Commonwealth of Australia.
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Table 2.9.1 *An example of Information Classification*

For example, the Surveying and Mapping Law of the People’s Republic of China⁴ - Article 29 addresses “surveying and mapping results” that are deemed “state secrets”

⁴ <http://en.nasg.gov.cn/article/Lawsandregulations/201312/20131200005471.shtml> (accessed December 1, 2018)