ASSESSING AND ANALYZING

RECOMMENDED TASK 6

ENVIRONMENTAL SCANNING AND ANALYSIS

1. Purpose

Environmental scanning is an assessment of the internal and external factors having an impact on geospatial information management. Understanding the broader environment may lead to the identification of new opportunities, and strategies or actions to deal with any issues that are a threat to the success of the Country Action Plan.

Environmental Scanning is achieved by undertaking a PEST and SWOT Analysis with a group of stakeholders, and ideally in a workshop setting.

Having a facilitator who is not a participant will help to manage the success of the workshop.

2. PEST Analysis

The PEST Analysis considers the external environment and focusses on the **P**olitical, **E**conomic, **S**ocial and **T**echnology issues that may have a positive or negative impact on the implementation of integrated geospatial information management.

An example of issues that may be raised during a PEST Analysis are presented below.

POLITICAL	ECONOMIC	SOCIAL	TECHNOLOGICAL
• Safer Country • Policy and legislation • E-Government • Regional Needs • Sufficient government support and Funding • Copyright and Intellectual Property • Value & importance to the country	• Investment Opportunities for revenue growth • Savings • Modernization and maintenance • Professional Skills • Plant, equipment and personnel availability • Public-Private Partnerships	• Institutional Culture • Community needs • Intergenerational issues • Geographic and geospatial education capacity • Computer literacy • Community safety	• Data quality • Legislation • Technology level • Power (utilities) availability • Broadband capacity • Standards, Metadata etc. • Innovation

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3. SWOT Analysis

The SWOT Analysis considers internal factors; namely the characteristics of government that are an advantage or disadvantage to geospatial information management, those aspects that can be exploited to advantage through UN-IGIF implementation and those realities that are a threat to implementation. While threats are often considered to be out of people's control, they may still have an influence on outcomes and be able to make a valuable contribution. For example, while legislators are responsible for drafting Open Data Policy, geospatial professionals will have specialist expertise that shapes the policy to bring out the opportunities.

▪ **S**trengths: characteristics of government that are an advantage to the IGIF Project.

▪ **W**eaknesses: characteristics that place the IGIF project at a disadvantage

▪ **O**pportunities: elements that the IGIF could exploit to its advantage

▪ **T**hreats: elements in the environment that could cause trouble for the IGIF during and after implementation.

An example of issues that may be raised during a SWOT Analysis are presented below.

STRENGTHS	WEAKNESSES	OPPORTUNITIES	THREATS
• Leadership • Skills • Technology • R &D • Community demand	• Missing, outdated, or sub-standard data themes • Policy • Cross agency collaboration • ROI and Pricing Models	• Expansion of data use • New applications • Community crowdsourcing • Government branding • Community trust	• Free data policy impacts on ROI • Change in policy • Consumer behaviour • Obsolete Technology • Insufficient resources

4. Methodology

Step 1: Organize a group meeting or stakeholder workshop to undertake the environmental scan.

Step 2: The workshop facilitator guides the discussion - taking a neutral position for PEST and SWOT analysis.   The facilitator will:

1. Make sure that attendees are known to each other and have opportunity to introduce themselves.

2. Explain the exercise to attendees.

3. Ask for a scribe to take notes at each table.

4. Ask for a volunteer to present the findings of discussions at the end of the session. A scribe can also be assigned to help the facilitator take notes of discussions and questions arising from the table reports

5. Encourage contribution from all delegates – See facilitator Instructions/Task sheets for each table below.

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INTEGRATED GEOSPATIAL INFORMATION FRAMEWORK
THE 'SELF-PACED, LEARN AND DISCOVER' APPROACH TO IMPLEMENT AT COUNTRY-LEVEL

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INFORMATION MANAGEMENT

6. Pose questions to the group if discussion starts to wane or if the topic goes off track. See examples below. *Note: Not all topics need to be covered.*

7. Steer clear of funding issues as this may impede further discussion. It is to be assumed that funding will always be a challenge.

5. PEST and SWOT Analysis Report

The report to contain the discussion points raised during the PEST and SWOT Analysis. This report may be paragraph or a list format.

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TABLE 1: POLITICAL ISSUES

Question:

What national strategies will benefit from having access to geospatial information; and what aspects of the political environment will create a barrier to the implementation of integrated geospatial information?

TABLE 1: ATTENDEES

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Name, Department

Topics for discussion on political issues may include (but are not limited to) the following:

- Safer Environment for Citizens
- Agriculture and resource management
- Emergency Management
- Disaster Preparedness and Recovery
- Climate change
- E-Government
- Open Government Policy
- Regional Issues
- Government Policy relating to Spatial Information
- Globalisation
- Data Pricing Policy
- Competition regulation
- Environmental Policy/Law
- Bureaucracy issues
- Copyright, patents / Intellectual property law
- Consumer protection and e-commerce
- Data protection law
- Freedom of Information
- Education

TABLE 2: ECONOMIC ISSUES

Question

How will government, industry and the community benefit economically from having access to spatial information; and what aspects will create a barrier to the development of Integrated Geospatial Information Management?

Topics for discussion on economic issues may include (but are not limited to) the following:

- Opportunities for revenue growth
- Savings through IGIF implementation
- Data Quality Improvement
- Innovation in government and private sector
- Spending on research & development
- Inflation and interest rates
- Unemployment trends
- Labor costs
- Skills shortage
- Stage of business cycle
- Level of consumers' disposable income
- Monetary and fiscal policies/situation
- Hardware/software costs
- Funding opportunities
- Public/Private Partnerships

TABLE 2: ATTENDEES

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Name, Department

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THE 'SELF-PACED, LEARN AND DISCOVER' APPROACH TO IMPLEMENT AT COUNTRY-LEVEL

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TABLE 3: SOCIAL ISSUES

Question

How will the community benefit socially from having access to geospatial information; and what social aspects will create a barrier to the development and use of integrated geospatial information by the broader community?

Topics for discussion on social issues may include (but are not limited to) the following:

- Institutional Culture
- Community culture
- Job creation
- New capabilities
- Intergenerational issues
- Computer literacy levels
- Geography literacy levels
- Health consciousness
- Education level
- Knowledge about geospatial data
- Attitudes toward work, leisure, career and retirement
- Attitudes toward product quality and customer service
- Attitudes toward saving and investing
- Emphasis on safety
- Lifestyles
- Buying habits
- Attitudes toward "green" or ecological products
- Attitudes toward and support for renewable energy
- Population growth rate
- Population migration
- Immigration and emigration rates
- Age distribution

TABLE 3: ATTENDEES

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Name, Department

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TABLE 4: TECHNOLOGY ISSUES

Question

What technology and data issues will have an influence on implementing an Integrated Geospatial Information Management Framework and the provision of access to geospatial information?

Topics for discussion on technology issues may include (but are not limited to) the following:

- Technology skills capacity
- Availability of technology
- Data availability and quality
- Standards
- Metadata
- Basic infrastructure level
- Rate of technological change
- Research & development
- Technology incentives
- Legislation regarding technology
- Technology level in your industry
- Communication infrastructure
- Internet access and Broadband capacity
- Access to newest technology
- Internet infrastructure and market/community penetration

TABLE 4: ATTENDEES

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Name, Department

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TABLE 5: STRENGTHS

Question

What internal strengths does government have that will enable the successful implementation of integrated geospatial information and the provision of quality geospatial information?

Note: This is about what we do well?

Topics for discussion on strengths may include (but are not limited to) the following:

- Leadership
- Budget and investment
- Technology skills capacity
- Internal resources
- Data availability and quality
- Data consistency
- Standards
- Metadata
- Basic infrastructure level
- Research & development
- Technology incentives
- Legislation regarding technology
- Technology level in your industry
- Communication infrastructure
- Internet and Broadband capacity
- Access to newest technology
- Internet infrastructure and market/community penetration
- Community demand
- Political will

TABLE 5: ATTENDEES

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Name, Department

TABLE 6: WEAKNESSES

Question

What weaknesses does government have that may be a barrier to the successful implementation of integrated geospatial information management and access to geospatial information?

Note: These are the things you will need to enhance to achieve integrated geospatial information management.

Topics for discussion on weaknesses may include (but are not limited to) the following:

- Lack of Leadership
- Low priority for budget and investment
- Gap in technology skills capacity
- Poor data quality
- Data sets required have not been collected i.e. address data
- Standards
- Metadata
- Basic infrastructure level
- Research & development
- Technology incentives
- Legislation regarding data and technology
- Technology level in your industry
- Communication infrastructure
- Internet and Broadband capacity
- Access to newest technology
- Internet infrastructure and market/community penetration
- Community demand

TABLE 6: ATTENDEES

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Name, Department

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TABLE 7: OPPORTUNITIES

Question

What opportunities will the government be able to offer industry, commercial and community sectors through the successful implementation of integrated geospatial information management and easy access to geospatial information?

Note: These are the reasons you will prosper.

Topics for discussion on opportunities issues may include (but are not limited to) the following:

- New applications in the following areas
  - Environment
  - Agriculture
  - Health
  - Resources
  - Disaster Management
  - Emergency Services
  - Biosecurity
  - Defence
  - Land and Property Administration
  - Social /Community Applications
  - Other
- Benefits to government
  - Community crowdsourcing
  - Data sharing
  - Positive government branding and improved image
  - Community trust
  - Economic benefits

TABLE 7: ATTENDEES

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TABLE 8: THREATS

Question

What external factors beyond your control could place the implementation of integrated geospatial information management at risk; and what contingency plans can be put in place to address these issues should they arise?

Note: Focus on the things you have no control over and consider threats to implementation and threats to the system once implemented.

Topics for discussion on threats may include (but are not limited to) the following:

- Free data policy impacts on revenues
- Change in government leadership and policy
- Public reaction
- Shifts in consumer behaviour, the economy, or government regulations that could reduce your sales
- Data quality not up to consumer expectations
- Technology becomes obsolete
- Research trends
- Organisational culture
- Economic trends

TABLE 8: ATTENDEES

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Name, Department

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