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Department for Environment, Food and Rural Affairs

Geographic information strategy

Key facts

£39.3m

The Department estimates it has spent on its geographic information strategy and activities since 2000.

These costs are estimates and do not include spending by arm's length bodies.

£9.1m

The Department estimates it has saved since 2000.

Many benefits are either unquantified or unrecorded. It is not a complete picture of benefits arising from these investments.

Costs

£27.9 million was spent on developing services

£13 million of the £27.9 million was spent on developing a data store

£10.7 million was spent on licensing

£0.7 million was spent on staff costs

Benefits

£7.5 million saved through central negotiation of data licenses between 2008 and 2010

£1.1 million or 22 staff years saved since 2002 by providing the public with an online mapping website

£0.5 million saved through its toolkit to date, launched in 2009

13,000 staff in the Department and arm's length bodies provided with access to infrastructure and applications which are business critical in delivering their everyday work

Summary

1 The Department for Environment, Food and Rural Affairs (the Department) has as its priorities to support and develop British farming and encourage sustainable food production; help enhance the environment and biodiversity to improve quality of life; and support a strong and sustainable green economy, which is resilient to climate change. The Department has major responsibilities to prepare for and manage animal and plant disease outbreaks and floods. Many of these priorities are delivered on behalf of the Department by its arm's length bodies.

2 Deciding on policy and legislation, delivering statutory responsibilities and keeping the public informed on environmental matters demands capabilities in disciplines such as land surveying, farmland and wildlife management, emergency management, environmental protection, impact assessments and overall environmental governance. Accurate and often real time **geographic information**, for example, mapping and other spatially referenced data, are fundamental to these disciplines. The Department has recognised this and has had a geographic information strategy since 2002.

3 The Department's strategy has sought to share geographic information between it and its arm's length bodies, as well as make best use of special software and hardware (known as **Geographic Information Systems**) and the skilled people needed to capture, store, edit, analyse, manage, display and apply these data. Appendix One highlights the main users of geographic information and systems across the Department and arm's length bodies with whom we consulted as part of our work.[1] These have been the target customers for the Department's strategy and for rationalisation of geographic information assets and systems.

4 Since 2000, the Department has spent at least £39.3 million on maintaining and implementing its geographic information strategy and activities. This includes the costs of coordinating geographic information and systems requirements between arm's length bodies, building and operating a range of services and negotiating licenses on behalf of arm's length bodies that are willing to participate. Participation has been entirely voluntary. Some arm's length bodies have chosen to collaborate and use the shared services. Others have pursued independent paths, investing in their own geographic information and systems and using their own IT suppliers to tailor solutions to their own requirements. Therefore, the £39.3 million does not include the additional costs incurred by arm's length bodies when investing in their own geographic information and systems.

5 This study examines whether the Department is getting value for money from its £39.3 million investment in its geographic information strategy and related activities. We have made geographic information our focus because it is a vital resource. The Department consider both it and its arm's length bodies could not have delivered a wide range of activities including policy making, decision-making, day-to-day operations and keeping the public informed without it.

6 We have structured our findings according to the NAO ICT framework[2] to provide a consistent view of the issues that affect value for money. The particular focus was on: policies and strategies, governance, operational uses and people.

Key findings

Policies and strategies

7 The Department has had a consistent geographic information strategy in place since 2002. The original strategy was stimulated by the Foot and Mouth outbreak in 2001. It was refreshed in 2009 by the Department working collaboratively with its policy teams and arm's length bodies and is based on five key principles: a federated business model[3], data sharing, professional skills, technology adoption and collaboration. These principles reflect current government policies on sharing of data and systems. In addition, the Department has been closely involved in wider government initiatives on transparency and publication of information for public consumption.

8 The strategy has been largely driven by technology solutions and services that the Department can offer its arm's length bodies. It has not focused on cost reductions or quality improvements that could be achieved by collaboration and sharing of geographic information and systems, though it is recognised that this collaboration is likely to have delivered savings. Neither the 2002 nor 2009 strategies set targets for cost reduction or quantified the benefits of collaboration. Nor has the Department tried to systematically measure the benefits of geographic information over the nine years. Its technology-driven approach has had successes, but it has not offered sufficient business benefits to persuade its arm's length bodies to actively work together. Nor has there been any mandate from the Department to require compliance across its arm's length bodies. In addition, it has not encouraged senior decision-makers to engage fully with the potential of geographic information to deliver services differently or more efficiently, or to understand their dependence on it.

9 The Department cannot effectively measure its progress against its strategies because performance measures are not SMART (Specific, Measurable, Achievable, Realistic and Timebound).[4] Whilst the Department's intention was to establish a federated business model which relied on arm's length bodies choosing to cooperate, it would have been more effective if the measures set out in both strategies were quantifiable, to assist the Department in assessing any progress it may have made. For example, one measure in the 2009 strategy was 'Management perception and understanding of the contribution geographic information can make to business goals'.

10 The Department recognises some of these weaknesses and in February 2011 began reviewing its strategic approach to focus more explicitly on how it could share costs and investment in geographic information and systems across its arm's length bodies.

Governance

11 The Department has put in place appropriate technical governance and has been successful in developing common data standards which aimed to improve consistency of data shared between the Department, its arm's length bodies and external organisations. However, strategic governance arrangements have been 'light touch' and have lacked impact. Technical governance has largely matched the applications the Department has delivered, reflecting its technology-driven approach. By 2010, there had been 12 governance groups in existence at different times that aimed to support the strategy and geographic information use. Some of these groups at the strategic level were not sufficiently focused or long-lasting enough to provide a consistent level of governance.

12 The 2009 strategy relied on the Department and its arm's length bodies to engage on a voluntary basis and participate in collective decision-making. This federated business model, whilst consistent with the Department's overall approach, did not work well in practice because of a lack of a strong mandate by the Department and because arm's length bodies chose to work independently. Therefore, the Department has missed opportunities to develop shared solutions across its arm's length bodies.

Operational use

13 At an operational level the Department has been successful in providing geographic information services to its teams, arm's length bodies and the public. The Department's environmental mapping website MAGIC (Multi-Agency Geographic Information for the Countryside) gives the public access to approximately 170 environmental data sets on interactive maps. Its main users are from the private sector, looking for conservation and site location information. Feedback from online users is positive, with over 60 per cent stating it meets their needs 'extremely well' or 'very well'. The Department's data store SPIRE (SPatial Information REpository), has assisted some of the Department's policy teams and arm's length bodies we consulted to save costs in data purchase and storage, but they had not quantified how much it had saved them. Its toolkit for non-specialists, SPIRIT (SPatial InfoRmatIon Toolkit), is widening access to geographic information across the Department and its arm's length bodies.

14 Many of the Department's services are critically reliant on geographic information and systems. However, it does not know the full extent of the costs and benefits of these across its arm's length bodies. The Department has limited data on benefits arising from its services. Only £9.1 million has been identified to date, but this is not a complete picture and is likely to be an underestimate. The Department does not know what proportion of its business (public services, regulatory commitments or policy setting) relies on or benefits from geographic information. This lack of measurement of benefits has meant it cannot make an assessment on whether it is achieving value for money. It also means that senior decision-makers have not fully understood the importance of geographic information to the Department's work.

15 The Department does not know the geographic information requirements of its arm's length bodies so it cannot make decisions as to how geographic information and services can be shared and rationalised to optimise current and future resources. For example, the Department only has partial information on the number and type of software licenses held by arm's length bodies, so it does not know whether access to these licences is proportionate to need.

People

16 The Department and its arm's length bodies have a good level of specialist skills. The Department has supported training for more sophisticated use of geographic information and aimed to create a community of interest to share best practice with the estimated 1,500 staff who use geographic information at a professional level. It has increased the number of staff who can access geographic information at a basic level. In March 2011, approximately 13,000 staff across the Department and its arm's length bodies could access geographic information tools through their desktops. It also has a strong relationship with its commercial suppliers of geographic information and systems.

17 These specialist skills are not always well integrated into the business or understood at the strategic level. Some specialist staff are in isolated and technical roles, rather than at higher levels in the Department or integrated into business management teams. This creates a risk that the benefits of geographic information will not be realised across the Department and may affect how it keeps up-to-date with new solutions that its commercial suppliers, and the market overall, can offer.

Conclusion on value for money

18 Whilst the Department has delivered some value from the £39.3 million it has spent on its geographic information strategy and activities since 2000, it did not set benefit targets or hold its arm's length bodies responsible for collaborating to deliver the strategy. It has not tracked the full cost of geographic information and systems to it or its arm's length bodies, or systematically measured benefits. The Department has only been able to identify savings of approximately £9 million. The figures for costs and benefits are both likely to be underestimates. This lack of financial information means we cannot determine that value for money has been achieved or indeed optimised.

Recommendations

19 The Department has recognised that it needs to improve its focus on demonstrating value for money and a review of its strategy has been initiated. It is in a good position to refresh its geographic information strategy, drawing on nine years of experience. Whilst its focus to date has been on developing technology, it must turn its attention to developing and driving delivery of a more business focused strategy, with measurable targets and defined business benefits. In addition, it should establish a 'comply or explain' regime across its arm's length bodies to enable these objectives to be met. The current cost reduction agenda across government creates an impetus for the Department and its arm's length bodies to work collaboratively in order to share information and systems where feasible to improve service quality whilst cutting costs.

20 We have formulated our recommendations to assist the Department in its efforts. In order to capitalise on an increased appetite for sharing of data and services, the Department should aim to revisit its strategy over the next six months, with a view to having its revised arrangements in place within the year.

Policies and strategies

a **The Department's strategies have been technology rather than business-driven.** The Department should revisit its strategy to assess how it can include more quantifiable and specific business targets. To develop this strategy, the Department should:

- develop a better understanding of the costs and benefits of geographic information across the Department and arm's length bodies and use this to establish the savings potential and where investment would bring the most benefits; and
- identify where data, applications, systems and skilled professionals can be rationalised or better coordinated to improve service quality and reduce costs.

Governance

b **The Department's governance arrangements have not been able to support and drive it and its arm's length bodies towards a common geographic information approach.** To address this, the Department should:

- put stronger leadership and governance arrangements in place, which have a clear accountable structure with the Department at the head to apply a 'comply or explain' regime;
- ensure its arm's length bodies are engaged at the right level so that delivery of the targets set in the strategy on a day-to-day basis is a shared responsibility, driven by the Department; and
- ensure the strategy is driven not just by technical experts but by key business leaders that are responsible for service quality and cost reduction.

Operations

c **The Department has had some success in supplying services to its arm's length bodies, but these are at risk of being overtaken by new technologies and do not meet the needs of all.** With a new strategy in place, the Department should:

- undertake a full options analysis, which would include consideration of whether the Department should continue the current operational services, design new shared services or look at whether services could be delivered by its arm's length bodies or a commercial supplier.

People

d **The Department has a good reputation for its technical skills but does not yet have sufficient focus on integrating these skills into business teams and higher management levels of the organisation.** The Department should:

- develop and support its specialists to build better business awareness of the costs and benefits of geographic information and how it supports business requirements; and
- use this awareness to drive better understanding of the business value of geographic information requirements throughout its arm's length bodies, to achieve more informed decision-making and a more flexible approach to what the market can offer.