

SHARING INTER-MINISTERIAL GIS INFORMATION IN PERU

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ABSTRACT

The Ministry of Economy and Finance (MEF), in the frame of the National System of Public Investment, developed a Pilot Project in order to share geographic and statistical information at inter-ministerial level. The objective was to demonstrate the viability of sharing standard GIS information at government level to develop tasks such as identification, formulation, evaluation, and execution of public investment projects. In this Pilot Project, the Shape Format, geographic projection and WGS84 datum were used. There were public institutions that kept GIS information in a server located at the Ministry of Transportation and Communications (MTC) -with interchange format- and as soon as the users get access to the server they could use this information in real time.

INTRODUCTION

SOME INFORMATION ABOUT PERU

- Annual rate of economic growth : 5.3% (the highest in the last three years)
- Current population : 26 749 000 (estimated)
- Localization : Located in the Pacific coast of South America

BACKGROUND

From April to June 2002 a Pilot Project named "Sharing Inter-Ministerial Cartographic and Statistical Information", implemented by the *Dirección General de Programación Multianual del Sector Público* (DGPM) of the Ministry of Economy and Finance, was developed. The main reason to initiate this Pilot Project was the need of having basic GIS standard information to support the planning process of public investment projects. Some public institutions took part in this Pilot Project. Also, the support of private companies through loans of software licenses, GIS software donations and the free use of Internet bandwidth was the key element for the successful completion of the Pilot Project.

PREVIOUS SITUATION

Before having the Pilot Project developed, the following activities were carried out:

1. In 2001 an Committee called "Advisors' Committee" was created to elaborate and implement an exchange plan of spatial data.
2. Workshop on Cybernetic Cartography in 1999 organized by MEF.
3. Workshop on Spatial DataBase Infrastructure in 2002 organized by MTC.

¹ I would like to express my recognition to Dr. Carlos Giesecke, General Director of DGPM, and Dr. Edgar Pebe for their support provided during the preparation of this paper and Mr Darwin Eufrazio who participated in the case study.

OBJECTIVE OF THE PILOT PROJECT

The objective was to demonstrate the viability of sharing standard cartographic and statistical information freely – at government level – to support tasks such as identification, formulation, evaluation and execution of public investment projects.

WHAT WERE THE PILOT PROJECT ACHIEVEMENTS?

- The GIS information was shared among public institutions through an inter-institutional network whose bandwidth was amplified with the contribution of private companies (i.e, Telefónica del Perú).
- International standard formats (Shape Format) recognized by the OpenGis Consortium were used. The standard format is detailed in Appendix 1.
- A common platform to share this information through a network for its free distribution among public institutions was developed.
- Duplication of efforts in the generation of basic information was avoid.
- During this time endless procedures and delays when asking or sharing information were avoid.
- The information shared in real time was used at DGPM-MEF to evaluate public investment projects on a really short-time basis. This case appears on Appendix 2.

PARTICIPANTS

The following institutions took part in the Pilot Project:

- Ministry of Education (MED),
- Ministry of Health (MINSA),
- Ministry of Transportation and Communications (MTC),
- Superintendence of National Property (SBN),
- National Congress,
- National Institute of Statistics and Informatics (INEI)

HOW IT WORKS?

1. There were public institutions, called Information Generating Institutions (EGI), that kept GIS information in a server located at the MTC, and user institutions, called Information User Institutions (EUI).
2. The MTC had a data server to store the information provided by EGI (i.e., MED, MINSA, SBN, INEI, and MTC) . At the MTC GIS Unit, the **ArcGis** was used to check if this information was okay.
3. The EUI (i.e., MEF and the National Congress) and the EGI were connected to the MTC data server and could get access to the information and transfer it to their own data server. After that, they could used the stored information by using GIS software (for example, ArcGis) so that their tasks could be easily developed.

RESULTS AND CONCLUSIONS

1. This experience was used to establish then the *Comité Coordinador de Infraestructura de Datos Espaciales del Perú* (Coordinator Committee of Spatial Database Infrastructure of Peru) - IDEP.
2. The Pilot Project was successfully completed and the DGPM officers are now working with IDEP in the preparation of proposals for the exchange of GIS information.
3. Additional applications such as WAV to get access to the Public Investment Project Bank, remote connection through ArcSde to get access to Oracle DataBase, ArcIMS to support the tasks of identification, localization, formulation, and evaluation of public investment projects, were developed.
4. The cost of this Pilot Project was almost none.

ACKNOWLEDGMENTS

The author wants to recognize the following contributions:

- ArcGIS software donated by ESRI Inc.
- GIS technical support provided by Telemática S.A. (an ESRI authorized agent)
- Bandwidth loan provided by Telefónica Data
- WAV application developed by Telefónica Móvil
- License loan provided by Oracle Perú

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1. Coordinator of the Pilot Project ("Sharing inter-ministerial GIS information")
2. Member of IDEP
3. GIS Specialist from 1995 to present. Participated in many work fields related to GIS applications in public and private companies.
4. Supervisor of the National Cartographic Database known as "Perudigital" or "DigitalPeru"

APPENDIX 1

FORMAT FEATURES

In Peru, most of the public institutions taking part in the Pilot Project used the Shape Format to store their cartographic databases. The main features are:

1. Shape format for storing spatial database.
2. Cartographic Projection: Geographic type
3. Geodetic Datum : WGS84
4. DBF format for storing tables.

APPENDIX 2

MINISTRY OF ECONOMY AND FINANCE: APPLICATION IN A HEALTH INVESTMENT PROJECT

A case study : Health Investment Project in Lambayeque
Lambayeque Region
Province of Ferreñafe
Cañaris District

With shared GIS information the following projects were evaluated in less than 2 days:

Populated Places	Total Cost	Result
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Hierbabuena	\$ 29 428	no approved
El Puente	\$. 33 142	approved
Capote-Picsi	\$ 32 571	no approved
El Arrozal	\$ 33 142	no approved
Cayalti	\$ 284 571	no approved

Total = \$ 412 854

Without this GIS information the Ministry of Economy and Finance would have approved all these projects. Everyday almost 20 projects are registered at the Project Bank of the National System of Public Investment. Thanks to this instrument a great part of the national budget devoted to public investment can be optimized.

APPENDIX 3

FIGURE1 . Arclms application used to evaluate a health investment project.

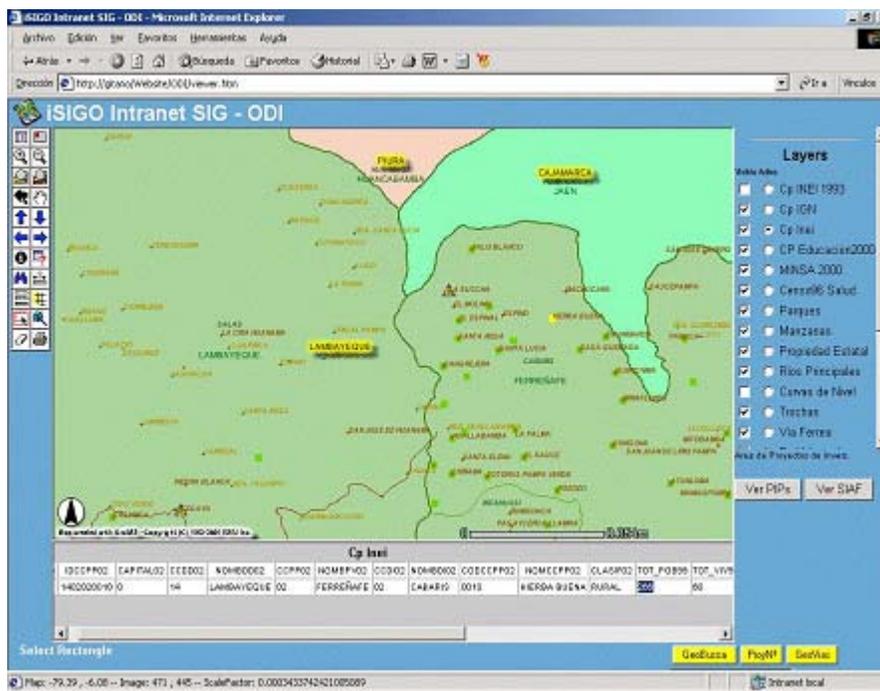


FIGURE 2 . Architecture used to share GIS information

