

AGRI-DOC

Document Management for Subsidies in the EAGGF

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Abstract

Success in controlling the policies of payment of subsidies in the European Agricultural Guidance and Guarantee Fund (EAGGF) depends on up-to-date information and overview on law and regulations, and on recommendations, both on European and on national level. The arrangement for Germany is that the organization structure is maintained by the executive level of 16 federal counties (Bundesländer). In times of worldwide computer connectivity and document management covering whole enterprises, agricultural administration and extension services are moving from the former fax and mail communication to electronic systems.

The German Center for Documentation and Information in Agriculture (ZADI) is developing a Document Management System (DMS) for the special needs of EAGGF subsidies' control. The 6 federal counties that ordered the DMS have defined system requirements for documenting input, document validity, retrieval functionality and relations between stored documents. ZADI realized these requirements by means of a recursive relational database with full text retrieval and whole document delivery. Apart from database and information technology, the main problems to be solved were in providing a suitable organization structure for input and document access through the different levels of federal administrative responsibilities.

Because of the special demands of Germany's federal structure, the implemented solutions might be useful for transformation on the European level. Time for the project will expire at the end of 1999, then continuous operation is planned.

1. Introduction

Administration and coordination of EAGGF subsidies is based on documents originating from the European Communities, the national (in Germany federal) government, and the executive acting 16 countries.

The federal level is responsible for information and coordination of all the EAGGF measures between the countries and for sending information of European origin to the countries. This was done by mail and fax before. This results in a lack of transparency over the extent of existing documents, difficulties in reconstructing historic situations where mistakes and court proceedings occurred, and redundancy in the administration of the papers at all the institutions involved.

To change this situation using modern information and communication technology, a group of EAGGF specialists from 6 countries organized the research project AGRI-DOC, with co-funding

from the European Union, to establish a central document management system, to increase the efficiency of the control of EAGGF subsidy measures. In 1998, the 6 countries issued the project contract to ZADI to develop the DMS by the end of 1999.

2. Requirements and Solutions

The EAGGF specialists of the 6 ordering countries founded a project coordination group to define system requirements and organization models for the new flow of information. These are special solutions for database and DMS functionality as well as for requirements resulting from Germany's federal constitution. The challenge was not only to maximize rationalization effects by means of a centralized, commonly used system, but also to preserve responsibility and identity of countries and regions.

Solutions that are representative for the AGRI-DOC system:

- Origin independent Document Access
- Country specific document validity
- Extranet and Intranet Functionality
- Document-Document Relations
- Document Retrieval Functionality

2.1 Origin independent Document Access

The users of the new DMS need an overview over the whole subject area. Questions on keywords should be answered by the database with entries on all the documents that are accessible by these users. The documents may be of European, federal or country origin.

For this purpose, a multi level organization structure of input centers and document administrators was established. Documents of European origin will be delivered directly to the database kernel by staff of the European commission via HTML based online input forms. At this time, this function is realized by staff members of the federal ministry and ZADI.

Documents of national federal origin are delivered by the federal ministry's EAGGF specialists. Each cooperating country has established its own input center to send the country's documents to the common server. All of them use the same method of online input with editing permission on its own records restricted.

2.2 Country specific document validity

Not all papers published at European level or at federal level are of interest to the countries executive tasks. In some cases, national or country law is responsible for realization. Moreover, it is not all levels of administration and extension within any given country that require access to a given pool of documents. The demands of agricultural schools differ from those of research centers or ministries. Therefore, users need only have access to the really interesting European papers, national papers and country's documents.

To solve this problem, all the partners support one validity administrator who has to sign the document records for access by special user groups within his area of responsibility. The countries' validity administrators have access to all the European and federal documents, together with their own country's documents. They are not allowed to change the records' content, but

may set the switches for access. At this time, the users of the DMS are grouped into more than fifty user groups with different permissions.

2.3 Extranet and Intranet Functionality

In addition to the intranet solution of a EAGGF document repository, the countries intend to store records of public interest as well. These are, for example, instructions to subsidies, applications and application forms. The farmers will be free to download and use the papers offered online.

Access on the public sectors of each country is realized by public user groups which are administrated by the country's validity administrators.

2.4 Document-Document Relations

In many cases, a document is connected to another document, or contains paragraphs that again are complete documents. AGRI-DOC has four types of document-document relations:

- Historic Sequences
A document (original version) has been changed by a revision or novelette. The novelette itself is a standalone document. At the same time, the resulting new version is another document. The whole chain from origin to actual valid version is defined in a historic sequence.
- Mother-Child-Relations
Large documents appertaining to different aspects within the case concerned may contain paragraphs that are themselves complete documents. The large document is defined as the mother document, the paragraphs are child documents.
- Attachments
Attachments to documents themselves are standalone papers. They have to be represented within the DMS in both ways.
- Related Documents
A document that contains information on the same topic within a subject is a related document. The relation is comparable to the "see-also"-link of encyclopaedias.

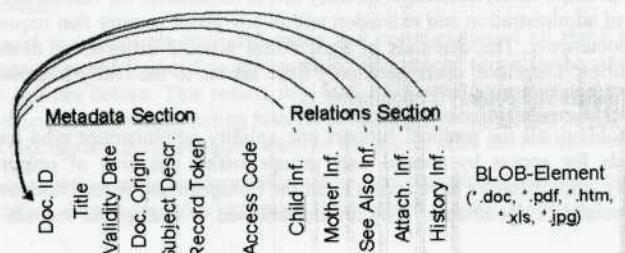


Fig. 1: Schematic Record Structure

VIP - Web-based Information System for German Agricultural Experimental Reports

To fulfil the demands, a recursive relational BLOB record structure was defined. Fig. 1 illustrates this in a schematic way. Each record contains a binary large object (BLOB). The document file itself is in MS-Word, PDF, HTML, or, in the case of scanned files, a web-compatible image format. The content of the document is described by a metadata section containing title, origin, validity date and controlled terms. The third section of record fields controls the relations between documents with counters and document numbers that refer to related records.

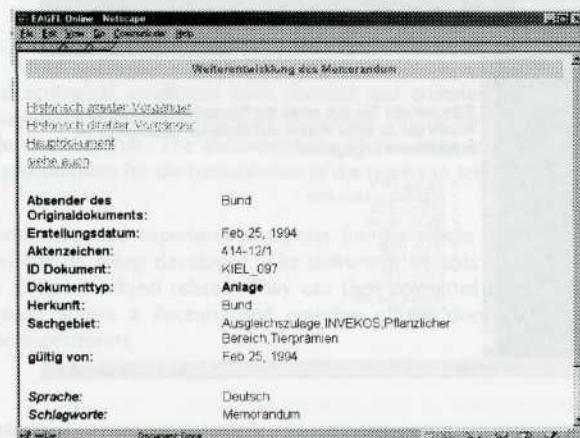


Fig. 2: Metadata section of a paper with document-document relations

The search result with a document display containing multiple relations is shown in fig. 2. The figure shows the metadata section of an attachment type document (Dokumenttyp: Anlage). The display contains links to its eldest predecessor ("Historisch ältester Vorgänger") and to its direct predecessor ("Historisch direkter Vorgänger"). Therefore the document is member of a historic chain. Further the link "main document" ("Hauptdokument") will lead the user to the paper where the displayed document is attached to. The link "see also" ("siehe auch") will guide to subject related documents.

2.5 Document Retrieval Functionality

Retrieval functionality contains metadata index displays (search by catalog), full text search inclusive document files, and the display and download of the whole documents, within the display of result sets. In the case of MS Word files, the original file can be downloaded and used for modification and citation in the own working area.

The implemented index displays are metadata fields that describe origin and content of the documents. Available index displays within the catalog search area are:

- record token
- document type (see fig. 3; e.g.: law, regulation, comment, protocol)
- source of publication (e.g.: Official Journal of the European Communities)
- document origin (e.g.: EU, national, country)
- subject area
- controlled terms

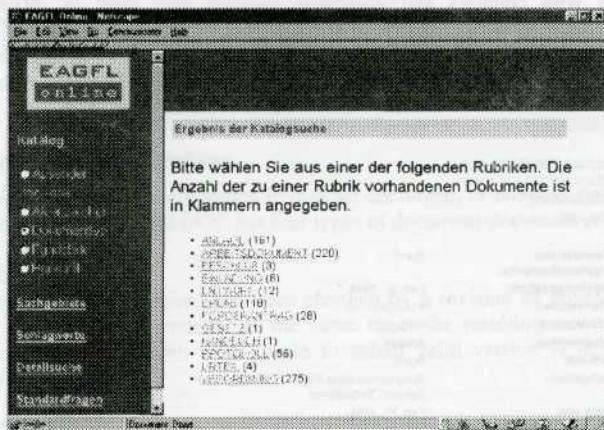


Fig. 3: Document type index display

3. Conclusions and Perspectives

The currently running test of the server shows that advanced database technology, in conjunction with defined organization structures, are able to solve information and communication tasks in federal structures. This example within the German environment might be useful for future transformation on the entire European level. The results of this efficient use of modern information and communication technology will be better economy, more efficiency, and increased actuality.

After expiry of the project time at the end of 1999, continuous operation is planned. To achieve this, the aim is to get all the 16 counties as partners and to establish the EAGGF document server as the central document repository for German agricultural administration and extension services on federal and country level. If this succeeds, the application might be usable for information and tasks of coordination by the European Commission.