The United States Department of Agriculture and Albert R. Mann Library's Economics, Statistics and Market Information System

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Abstract

The United States Department of Agriculture Economics, Statistics and Market Information System (USDA ESMIS – http://usda.mannlib.cornell.edu) is the product of an ongoing and dynamic partnership between Cornell University's Albert R. Mann Library and four economic agencies of the United States Department of Agriculture (USDA). Mann Library's partnership with the USDA began in 1993. The system provides the public with fast and free electronic access to vital agricultural information via the World-Wide Web. These materials cover U.S. and international agriculture and related topics. The number of reports sent or downloaded total more than two million annually. At the present time, information from four USDA agencies is represented: the World Agricultural Outlook Board (WAOB), the Economic Research Service (ERS), the National Agricultural Statistics Service (NASS) and the Agricultural Marketing Service (AMS). These agencies generate serials that are issued daily, weekly monthly or annually. Mann Library disseminates these titles through the web interface or email within 5 minutes of their release.

A wealth of historical information is also available to ESMIS users. In partnership with NASS, Mann Library has endeavored to scan and make available all historical NASS reports, some of which date back to the early 1900s. With the first set of scans, 66 titles (6,486 issues and over 100,000 pages) were added to the system. Another 4,459 issues will be added by fall of 2007. Once all of these reports are completed and available via the ESMIS, Mann Library will be working with the USDA to scan historical issues of the Census of Agriculture.

As the USDA ESMIS has evolved and as additional agencies, data and reports have been added to the system, Mann Library has faced a number of technical and interface

challenges in maintaining the system and presenting the information to the user in a logical manner. In 2005 and 2006 the system underwent an extensive redesign process. The new system was unveiled in July, 2006. The process of redesigning gave us the opportunity to: redevelop the underlying database, revise the metadata extensively, create a more automated workflow as well as add new functions and features for the end user.

The information contained in these reports is of interest to a wide variety of users. The Mann Library reference desk answers e-mails and telephone calls for the system. Farmers, agricultural economists, scientific researchers, commodities traders and students have all interacted with reference staff. This paper will highlight the data and services available at the USDA ESMIS. The audience will gain a better understanding of the types of how to navigate the system.

*Biographical Information
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The USDA ESMIS

The United States Department of Agriculture (USDA) Economics Statistics and Market Information System (ESMIS) is a digital repository of reports and data-sets from four USDA agencies, managed by Cornell University's Mann Library under contract with some of the economic agencies of the USDA. The ESMIS contains more than 2500 serial titles, including scans of historical reports for two agencies. It is available at http://usda.mannlib.cornell.edu. The system provides fast and free access electronic access to vital agricultural economic information.

History of the ESMIS

The partnership between Mann Library and the USDA was forged in 1993 when Mann Library began to distribute reports for the Economic Research Service (ERS) on a gopher server.[1] In 1995, the system was moved to a web site and included reports and data-sets from two additional agencies: the National Agricultural Statistics Service (NASS) and the World Agricultural Outlook Board (WAOB). At this time, the site was called the

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[1] Gopher is a system that pre-dates web browsers. It was developed at the University of Minnesota and used for browsing transferring files.

Economics and Statistics System (ESS). In 1999, the ESS was awarded highest distinction for an honor award given by the United States Secretary of Agriculture. In the same year, the National Association of College and University Business Officers (NACIBO) gave the system an award for "achievements in improving the quality and reducing the costs of higher education programs and services". In 2003, the Agricultural Marketing Service (AMS) joined the partnership so that its Market News Reports could be distributed via e-mail, at which time the system was renamed to the Economics Statistics and Market Information System (ESMIS). In 2004 Mann started a large-scale scanning project to scan and make available all NASS and WAOB historical reports. 2006 saw the unveiling of a newly redesigned ESMIS which keeps documents in a database and moved away from flatly structured html pages. This year, 2007, we are working with another USDA agency, the Foreign Agricultural Service (FAS) to make their economic reports available.

ESMIS at Cornell

Mann Library which supports Cornell's College of Agriculture and Life Sciences, College of Human Ecology, Biological Sciences, and Division of Nutritional Sciences, has been noted for its early technological innovations. In 1993, before many other libraries has the expertise in system design, Mann had the information technology staff needed to distribute documents electronically on the Internet. This presented an excellent opportunity for ERS to start electronic dissemination with minimal start-up time. The partnership worked very well and two more agencies joined so that their titles could also be delivered by email. The successful partnership has lasted almost fifteen years now and Mann continues to do this work on contract with its USDA partners. We see this work as part of fulfilling our mission as a land-grant institution as well as providing information to our own colleges.

Types of Information available at the ESMIS

The majority of the reports and data-sets on the ESMIS relate to agricultural economics. The subjects covered in the reports reflect the mission of the different agencies. NASS (http://www.nass.usda.gov/) gathers statistics at the farm level and compiles them into reports generally at the state and county level. NASS conducts surveys both monthly and annually. NASS prepares and releases data as well as estimates of production, supply and prices.

Many of the reports from the ERS (http://www.ers.usda.gov/) are economic analyses of data from NASS and other sources. They create situation and outlook reports that make predictions of future prices and farm incomes. ERS provides "expert economic analysis and economic data to farmers, consumers and policymakers as new technology and changes in domestic policy and the rules for trade continue to alter the global marketplace".

The WAOB (http://www.usda.gov/oce/index.htm) is an office within the Office of the Chief Economist at the USDA. The WAOB uses statistics provided by NASS to project

world food supply and demand. Their monthly publication, the <u>World Agricultural Supply and Demand Estimates</u>, is one of the most heavily requested reports from the USDA ESMIS.

AMS (<u>http://www.ams.usda.gov</u>) is divided into six branches: Cotton, Dairy, Livestock & Seed, Tobacco and Transportation. AMS is responsible for "developing quality grade standards for agricultural commodities, administering marketing regulatory programs, marketing agreements and orders, and making food purchases for USDA food assistance programs." Their <u>Market News Reports</u> tracks auctions and markets for AMS commodities. There are over 1500 Market News Report titles. The latest version of each title is available from the ESMIS web site. Market News Reports are also available by electronic subscription.

The FAS (<u>http://www.fas.usda.gov</u>) collects and analyzes agricultural trade data. Their <u>World Markets and Trade</u> series for different commodities will be the first to become available at the ESMIS. FAS states that its major service is "market intelligence, access, and development; trade policy formulation and monitoring; food aid; and linkages"

While all of these agencies do release their reports on their own web sites, their mission is to produce the current documents. Document management and long term storage of reports is becoming increasingly cumbersome for many governmental agencies. As a library, our mission is to manage and archive documents. In addition, the ESMIS system has an email subscription feature. The agencies have therefore never had to create a subscription system. Because Mann Library fulfills these functions, our partner agencies can better focus on gathering and analyzing information for the current reports and data-sets.

Archiving

As with most digital repositories, archival issues continue to be a concern. There are some reports that may contain out of date information, some that may have incorrect information and others that are at so granular a level, it may not be worth the effort and expanse to continue keeping it accessible. The system has the capacity for staff members to suppress unwanted titles through the administrative interface. It is the decision of the individual agencies whether to suppress a title while the entire work team handles other digital preservation issues.

Redesign of the ESMIS

As the USDA ESMIS has evolved and as additional agencies, data and reports have been added to the system, Mann Library has faced a number of technical and interface challenges in maintaining the system and presenting the information to the user in a logical manner. In 2005 and 2006 the system underwent an extensive redesign process. The new system was unveiled in July, 2006. The process of redesigning gave us the opportunity to: redevelop the underlying database, revise the metadata extensively, create

a more automated workflow as well as add new functions and features for the end user. The rest of this paper will highlight these features.

Process of Creating Reports and Releasing them on the ESMIS

Some of the reports from NASS and WAOB are extremely time and market sensitive. They are released only after what is known as "lock-up". In the lock-up process, a specific section in one of the USDA buildings is secured from about midnight the night before the report is to be released until the time that the report is to be released. All windows and doors are locked, window shades are sealed and all telephone and internet connections are disconnected. Analysts with proper identification work to finalize the reports. This is done to ensure that no one gets the information ahead of anyone else.

Once a report is released, it is submitted to our site electronically. Until recently, technical services staff at Mann Library had to build their schedules around the release of these reports as they must be on the site and sent out by email within minutes of release. We are now able to received reports in an automated fashion. From the offices in Washington DC, a staff member can use an "uploader" module or an automated dissemination tool which will create a directory for the documents and add them to the current documents section of the page for that particular title. This not only saves time for our technical services staff, it also allows for greater flexibility on the side of the USDA agencies in that they can easily replace a document or add errata if need be, all without having to work with staff at Mann Library in Ithaca, New York to get it done.

Adding Metadata

Since, for the most part, the ESMIS is a system for serial titles, the metadata are somewhat like serials records. The metadata in the ESMIS may be added with a simple entry form which has a set of fields in which to fill in the appropriate information. (See figure 1) These fields are based on the type of reports and data that we have had in the past and the information needs of a particular agency. The AMS, for example, uses what they call a "slug id" number. This "slug id" is used by most staff within the agency to look for and refer to particular reports, rather than using the title. When an AMS report is added, the identifier field is where the slug id number is inserted. There is also a field labeled "voyager id" which refers to the record in our online catalog. If we would like for patrons to have the ability to subscribe to a report, there is a box in which to type "Y" for yes. Once a record is created, files can be uploaded and they will show up on the system automatically, including the reports by email system. The title and description are searched by default, but it is possible to add keywords after a record is created to facilitate better searching. It is also possible then to choose the categories under which the title will be found.
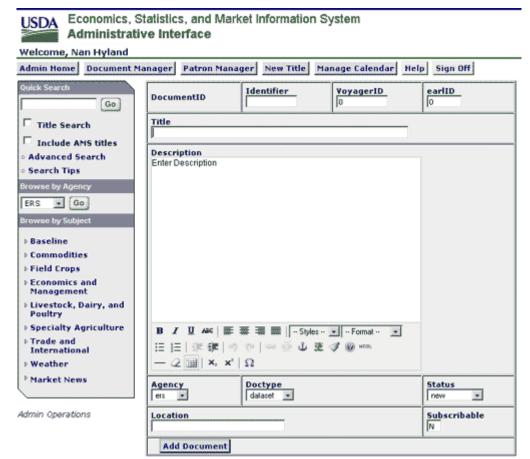
Figure 1. Metadata Input Module

The categories along the left-hand side of the interface facilitate browsing. These categories are not based on an existing thesaurus. Rather, they were based on older publications catalogs from the agencies and created after careful review and discussion with all partners involved. While many thesauri exist for this type of product, notable the National Agricultural Library's thesaurus (http://agclass.nal.usda.gov/agt/agt.shtml), the specialized and sometimes narrow nature of the documents at this site did not fit with broader agricultural or economic thesauri. Changing the names of the browse categories is a relatively simple fix. Also the metadata module allows anyone with access to the administrative module to add, remove or change which categories under which a particular category will appear.

Reports by e-mail

Users may subscribe to reports by clicking "reports by e-mail." After being prompted for an email address and password, an email address is sent to the subscribers account with a request to confirm delivery of the e-mail. This prevents someone from gratuitously signing up somebody else. It also helps to confirm that the address entered is valid and that mail from the system can get through various spam filters. We have an e-mail address that we recommend that end-users add to their email address to help ensure delivery. With the log-in users may change and delete their subscriptions at any time.

Calendar

The new administrative module also allows for library or agency staff to make changes to scheduled release dates. While the initial ingest of the dates on the calendars that we receive from our partners is done by our programming staff, updates changes and deletions are easy for anyone on staff to make. This calendar is also what drives the information on the "pending release dates" section of a record. When a user searches for and finds a report, a small box on the right lists the dates and times for its next five releases.

Support

End-user support for the ESMIS is handled at Mann Library's reference desk. The Mann Library reference desk answers e-mails and telephone calls for the system. Farmers, agricultural economists, scientific researchers, commodities traders and students have all interacted with reference staff at Mann Library. The staff is trained to assist patrons by telephone and email with finding and getting access to reports and data-sets. Staff at Mann will not, however, answer questions about how data are derived. Such queries are always referred on to the analyst who created the report or to one of the agency's telephone help lines. Help is also available from the NASS and ERS helpdesks - (nass@nass.usda.gov or InfoCenter@ers.usda.gov). The volume of questions that come to Mann regarding the system has decreased considerably since the redesign. We see this as a good sign.

Usage

The USDA ESMIS is one of the busiest servers on the Cornell University campus. Use of the system continues to increase. The way in which use statistics were aggregated before the redesign, make historical comparisons difficult. With a newly written program tracking email subscriptions and a web statistics program called WUsage, we are able to get more information and get it more easily than we have in the past. At the time of this writing, there are 34,778 email subscriptions to reports set up by users. On average, 520 new subscriptions are created each month. The busiest day in 2007 saw more than 22,000 individual visits to the ESMIS. A typical busy day sees about half of that number. Quieter days such as weekends typically have about 2000 unique visitors. WUsage allows us to extract this type of information easily. The sheer number of reports and files on the system make maintaining WUsage logs difficult as run into size limitations easily.

Upcoming Additions to the ESMIS

We are under contract with NASS to digitize historical versions of the Census of Agriculture. The Census of Agriculture in the United States is taken every five years. The first surveys of agriculture were taken as part of the standard decennial population census. Beginning in 1925, the Census of Agriculture was taken more twice per decade. We will be digitizing the Census of Agriculture going back to 1925. Digitizing what is primarily data has its challenges. When digitizing text, optical character recognition

(OCR) technology can be employed. This then makes it possible to search through the text. If the OCR program misreads an occasional letter, it is often very obvious to the reader and the damage is minimal. With data, however, too much risk is involved to use OCR. The data must be accurate. Misread numbers would result in bad data. In order to ensure accuracy, the numbers would have to be input manually and input a second time so that the numbers can be cross-checked. This is a very expensive, labor intensive process. For these reasons, the Census of Agriculture will initially be in .pdf and .tif forms only and will not be machine readable.

We are also very much looking forward to our newly formed partnership with FAS. After their World Markets and Trade reports are available at the ESMIS, we will very likely add other reports to the site. The wealth of information available at the ESMIS continues to grow and we continue to look for ways to make the system as user-friendly as possible. If we run out of time for questions, please feel free to contact me nch9@cornell.edu if I can be of further assistance.