



August 14, 2008

TO: Nancy Hirschhorn
Chief
Grant Management Branch
Foreign Agricultural Service

FROM: Larry Sivers
Director
International Programs Office

SUBJECT: Proposed Emerging Markets Program FY 2009 Funding of NASS
International Statistical Cooperation Projects, ARGENTINA.

GENERAL:

The following proposal requests Emerging Markets Program (EMP) funding for the **second** year of a three-year project between the National Agricultural Statistics Service (NASS) and Argentina's Secretary of Agriculture, Livestock, Fisheries and Food (SAGPyA). It also includes collaboration with Foreign Agricultural Service's USDA Satellite Imagery Archive (USDA-SIA), which is described in attachment A.

The project objective is to implement an approach to improve the capability of Argentina's government to develop accurate and timely statistics for Argentina agriculture.

BACKGROUND:

NASS International Programs Office staff has developed a mutual relationship of trust and respect with the leadership and staff of SAGPyA - Dirección de Coordinación de Delegaciones, which is responsible for Argentina's agricultural statistics. This has allowed for an effective exchange of information on the operations of each country's processes and procedures for official agricultural estimates development and provides the basis for this proposal.

Emerging Markets Program (EMP) funding was provided in January 2008 for the first year of this three year project with SAGPyA to improve the agricultural statistics in Argentina. During this year, NASS has developed a work plan for collaborative activities with SAGPyA, and initiated the first of these planned activities with a training workshop held in April 2008 for over 50 persons involved in Argentina's agricultural data collection activities. A two week workshop was held during July 2008 in Washington D.C. and in Nebraska for detailed training on crop yield forecasting methodology. Further training is planned for September 2008.

This project has had strong involvement and support from the FAS staff at the US Embassy in Buenos Aires, which has enhanced the effectiveness of NASS efforts with its counterparts. **The proposal submitted in May 2007 is attached for reference on the details of this proposal.** *This current request is for the second year funding of this project, (\$168,500), and the funding summary from the proposal is shown below:*

**PROPOSAL FOR AGRICULTURE INFORMATION SYSTEM TECHNICAL ASSISTANCE
AND TRAINING PROJECT IN ARGENTINA**

Proposal Date: May 8, 2007

The project is proposed by: National Agricultural Statistics Service,
United States Department of Agriculture
Washington, D.C. 20250

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I. PROPOSAL DESCRIPTION.

Argentina Agricultural Statistics Improvement Project: This project would develop and implement an approach to improve the capability of Argentina's government to develop accurate and timely statistics for Argentina agriculture.

II. RATIONALE.

The availability of unbiased and timely data is necessary for efficient functioning of agricultural markets. Agricultural statistics must be timely and accurate to be used effectively. The government and private sector need improved data and information to make informed decisions related to the agricultural sector. The capability to perform commodity situation and outlook reporting and economic and policy analysis is necessary for a market economy. To effectively perform these functions, timely and accurate data is needed. International users, including U.S. producers and agri-businesses, need reliable information about the agricultural situation in major agricultural producing countries.

Argentina is an important country in agricultural production and the need for improved data and more timely information on changes within Argentina's agricultural sector is becoming more important for data users, both in Argentina and other major agricultural producing and importing countries. Increased communication and cooperation between SAGPyA and USDA would be very beneficial to data users in both countries and world-wide.

The SAGPyA has expressed interest in collaboration with USDA to improve its agricultural statistics program. SAGPyA staff traveled to the United States at their expense in November 2006 for two weeks, where NASS provided briefings in Washington D.C. on organizational structure, methods, and procedures used in the U.S. for developing official agricultural estimates. Sessions were also provided by the World Agricultural Outlook Board (WAOB) and Foreign Agricultural Service (FAS) on USDA's process to develop world supply and demand estimates. A visit to the NASS field offices in Illinois and Indiana provided insight on structure, responsibility and procedures for collection and processing of data at the State level.

That visit was followed by a NASS project assessment visit to Argentina in February/March 2007, funded by the Emerging Markets Program (EMP). During this time, a set of activities were identified for implementation, subject to approval of this project funding request. Arrangement of these exchanges had the strong support and assistance from the FAS Office in Buenos Aires.

An improved agricultural statistics system would be very helpful to the USDA's World Agricultural Outlook Board in its monthly assessment of Argentina's agricultural production. If realized, the project would involve NASS working primarily with the Secretariat of Agriculture and Fisheries (SAGPyA) to improve the availability, quantity, quality and timeliness of its agricultural statistics.

III. PROJECT PARTICIPANT IDENTIFICATION.

This project would work extensively with the Secretaria de Agricultura, Ganadería, Pesca y Alimentos, Dirección de Coordinación de Delegaciones – Estimaciones Agrícolas, Buenos Aires, Argentina which has responsibility for agricultural statistics.

Institutional Capability:

As the statistical agency of the United States Department of Agriculture (USDA), the National Agricultural Statistics Service (NASS) has as its mission "to provide timely, accurate and useful statistics in service to U.S. agriculture." NASS has also been helping to establish and improve agricultural statistics programs in countries around the world for nearly 60 years.

NASS specialists provide technical assistance and training on a reimbursable basis in all aspects of statistical surveys, censuses and data systems. The institutional relationships established between NASS and counterpart organizations, which generally continue long after projects are completed, have been mutually beneficial for understanding and addressing improvement issues.

With a total staff of more than 1300 employees, a large portion of which are professionals experienced in various aspects of census and survey work, NASS can draw from a large and diverse set of skills to support international projects. NASS is the United States' only source of a large permanent staff experienced in the practical application of the technology and latest operational developments in the field of agricultural statistics.

IV. RESOURCES REQUIRED.

The amount of resources identified in this proposal to assist in improvement of the agricultural statistics systems is for training, technical assistance, and study tours in the United States desired for the project. This support will be for NASS experts' travel to Argentina to work with counterparts, with costs reimbursed at U.S. Government travel allowance rates and salary for NASS staff involved at actual daily rate/individual plus 19.9% benefit and 20.9% leave factor rates. This will be done with the equivalent of ten TDY's/yr (10 days each) to Argentina by NASS staff.

BUDGET NEEDS:

| ITEM | 2008 (already funded) | 2 nd year | 3 rd year |
|--------------------|-----------------------|----------------------|----------------------|
| | | FY-2009 | |
| | | Amount \$(000) | |
| Salary | 85 | 85 | 85 |
| Travel | 65 | 65 | 65 |
| NASS sub-total | 150 | 150 | 150 |
| FAS sub- component | 27.5 | 18.5 | 21.5 |
| Total | 177.5 | 168.5 | 171.5 |

In addition to the resources provided from the U.S. side for technical assistance, significant resources in the way of National staff, regional staff, and local staff, travel expenses, data collection and processing cost will be provided by the Argentine collaborating agencies.

V. IMPLEMENTATION.

The following activities are proposed to be implemented in this project:

1. Objective Yield Methodology
 - Design and implement surveys for major crops/major growing areas
 - Methodology Training in Argentina or U.S.
 - Yield Modeling with Historic and Climatic data.
 - Enumerator training techniques
2. Improvement of the Satellite Methodology Utilization
 - Training (hands on)
 - New technologies
 - Classification techniques.
 - Sampling Methodologies.
 - New computer programs.
 - USDA/Foreign Agricultural Service/SAGPyA sharing of data
3. Multiple Frame
 - Stratification modifications with frames
4. Marketing Information Program
 - Seminar with ideas on how to educate data users and producers
 - Dissemination of agricultural information
5. Minor Crops
 - How to work with minor crops
 - What information is needed
6. Training
 - Study Tours Program to U.S.
 - Staff Skill Enhancement
7. Others
 - Data base
 - Study alternatives for establishment of data bases
 - Explore how to implement operational data base technology
 - Grain stocks estimates.
 - Estimation and monitoring of disasters.

The proposal includes budgeting to carry-out a three year set of activities to implement a market oriented agricultural information system. In addition to technical assistance to the collaborative institution in the country, training seminars in-country on various aspects of the statistics system, as well as study tours in the United States with NASS, would be undertaken.

VI. KEY CONTACTS.

USDA National Agricultural Statistics Service (NASS) management of the project would be under the guidance of Larry Sivers, Director, International Programs. In country contact is Ing. Agr. Mario J. Camarero, Director de Coordinación de Delegaciones, Estimaciones Agrícolas - SAGPyA.

Collaboration success is enhanced with clear lines of communication and decision making processes. The project will be structured using a Steering Committee for decision making, led by Mario Camarero,

(SAGPyA) and Larry Sivers (NASS), and coordinated and implemented by Cecilia Castelli, (SAGPyA) and Victoria Calderon, (NASS) as the central points of contact. As project activities are initiated and other staff members from both agencies are involved, they will be integrated under this structure.

ATTACHMENT A:

FAS Proposal for Collaboration between USDA's Satellite Imagery Archive and Argentina's Secretariat of Agriculture (Prepared by: Robert Tetrault, USDA/FAS, OAO/Applications Development, USDA Satellite Imagery Archive Manager)

NASS-IPO has asked the Foreign Agricultural Service's USDA Satellite Imagery Archive (USDA-SIA) to assist in their proposal. Specifically, the USDA-SIA would provide medium resolution satellite imagery—P6-AWiFS—to SAGPyA so that SAGPyA can develop and publish a Cropland Data layer for select Argentine provinces. The satellite imagery provided will be similar to the support that USDA-SIA provides to the National Agricultural Statistics Service, Spatial Applications Research Section (NASS-SARS) for their use in developing the Cropland Data layer. Information about the NASS Cropland Data Layer can be found at: <http://www.nass.usda.gov/research/Cropland/SARS1a.htm>

This section of the proposal reviews how the USDA-FAS could contribute satellite data for this proposal and focuses on USDA-FAS desired outcomes. USDA-FAS desires a Cropland Data layer for select Argentine Provinces. It is expected that exchanges of methodologies on crop estimation will occur as more meetings occur, travel occurs and consultations increase.

Proposal Questions: In development of this proposal, several questions are addressed. The answers to these questions also formulate the budget.

1. How will this project benefit FAS?
2. How does USDA acquire the imagery now and are there additional data costs for this project?
3. How Argentina's SAGPyA would get access to the satellite imagery and are there additional costs for access?
4. Is it legal for SAGPyA to get the satellite imagery?
5. What is the value of this service?
6. Can SAGPyA use the satellite imagery in their system?
7. Can SAGPyA build the desired end product—the Cropland Data layer?
8. How will the project be sustained after project funds end?

1. How will this project benefit FAS?

FAS-Office of Global Analysis (FAS-OGA) estimates crop production for major agricultural regions worldwide. The analysis is presented to the World Agricultural Outlook Board (WAOB) during the Department's lockup process. WAOB requests information about Argentina more frequently than any other country (68 WAOB lock-up briefs from 2002-2006). FAS-OGA needs to have accurate and timely information about agricultural areas and production for Argentina. This project helps FAS-OGA in providing agricultural area through the Cropland Data layer. The Cropland Data layer is an annually produced value-added imagery product. The Cropland Data layer (CDL) contains crop-specific digital data layers, suitable for use in geographic information systems (GIS) applications. The NASS U.S. program produces CDL's focusing on the corn/soybean/rice/cotton agricultural regions in many Midwestern and Mississippi Delta States with the focus of producing digital categorized geo-referenced output products using imagery from the P6-AWiFS sensor. The Cropland Data Layer in Argentina is expected to be similar and have crop-specific digital data layers, suitable for use in geographic information systems (GIS) applications. The geographical region that is expected to be produced is selected provinces of the main soybean and corn growing areas. This would include the provinces of Cordoba, Santa Fe, Buenos Aires and Entre Rios. SAGPyA will decide which province(s) are the most important. If the technical exchange between NASS and SAGPyA produces an accurate, accessible Cropland Data layer, then FAS would have a crop-specific digital data layer to better understand the amount of corn, the amount of soybeans, and the amount of secondary crops. This product, which currently does not exist, would be extremely valuable to FAS-OGA's understanding of agriculture in Argentina even if the Cropland Data layer was built for one Argentine Province.

Additionally, FAS-OGA routinely travels to Argentina to assess crop conditions at least once per year. An exchange of methodology with the technicians at the SAGPyA regarding crop condition assessment would be extremely beneficial

2. How does USDA acquire the imagery now and are there additional data costs for this project?

USDA-SIA purchases satellite imagery for areas of Argentina routinely for assessing crop conditions. Purchases include Argentina's main wheat-growing region and the main corn/soybean growing region. USDA-SIA purchased 89 scenes in 2006 and has 137 scenes total for Argentina, including scenes acquired in calendar year 2007. As long as SAGPyA's area of interest coincides with the already planned purchases by USDA-SIA, there should be no additional data costs. The geographical region that is expected to be produced as a Cropland Data layer is selected provinces of the main soybean and corn growing areas. This would include the provinces of Cordoba, Santa Fe, Buenos Aires and Entre Rios. SAGPyA will decide which province(s) are the most important. In order to collaborate with SAGPyA, the USDA standing order for P6-AWiFS imagery in Argentina may be sent to technicians at SAGPyA to gain their input into which areas to procure. Some funds may be needed to accommodate slight differences between the FAS standing order and project needs. Discussion and collaboration will be needed between USDA-SIA, FAS-IPA and SAGPyA.

3. How would Argentina's SAGPyA get access to the satellite imagery?

SAGPyA would access the satellite imagery in the same manner as any other participating agency. Archive Explorer, the web-enabled browse and search tool, allows Archive subscribers to browse the contents of the USDA-SIA by either specifying coordinates or using a map. Users can view thumbnails of available imagery prior to ordering. There are 1,716 P6-AWiFS scenes in the collection globally, and 137 scenes of Argentina. Delivery of satellite data is on a CD and arrives by common carrier (e.g. FedEx). The P6-AWiFS data needs to be processed using image processing software and/or by geographical information systems (GIS) software. Costs for SAGPyA to access the data are minimal. Changes to USDA-SIA procedures include customs slips for FedEx. Training in the use of Archive Explorer may be needed and would require travel to Argentina.

4. Is it legal for SAGPyA to get the satellite imagery?

USDA-SIA purchases satellite data through commercial channels and must abide by the license restrictions. The P6-AWiFS data is purchased with a Tier 2 license. The Tier 2 (two customer groups) license designates one customer group as the US federal/civilian agencies and the second customer group can be designated as the SAGPyA. SAGPyA will be restricted to acquiring the P6-AWiFS satellite imagery only for Argentina. The USDA-SIA needs to keep track of which scenes are shipped to Argentina in order to designate the second customer group as SAGPyA. SAGPyA will be the only user of the satellite data. If there is a need to share the satellite data with other Argentine government agencies, provinces or the general public, an uplift to the license needs to be paid. End products such as the Cropland Data layer which is made from the satellite imagery is a value-added imagery product and can be distributed without consideration of the original license. Discussions about license agreements, differences between satellite data and value-added products need to be very clear and will require face-to-face meetings. Travel is required.

5. What is the value of this service?

USDA-SIA has an established access fee of \$75,000 per year for participating agencies. Argentina's SAGPyA will be restricted to accessing the P6-AWiFS satellite data only for Argentina. Therefore access is valued at \$50,000 per year. The proposal is for USDA-FAS to contribute the value of access—\$50,000 per year—as an “in-kind” investment. This is for the duration of the project and is expected to total \$150,000.

6. Can SAGPyA use the satellite imagery in their system?

SAGPyA may need to procure the necessary, specialized software to process satellite imagery data into a value-added product. SAGPyA will be exchanging methodologies with the NASS on developing the Cropland Data layer, and NASS is the best candidate to advise SAGPyA on purchases and system design. This will insure that SAGPyA's system can accommodate the same data types as the NASS system. Also, since NASS thoroughly understands the P6-AWiFS satellite data and the format of the data as received from USDA-SIA, it is expected that they will be able to convey that information to SAGPyA. The P6-AWiFS data from USDA-SIA is orthorectified to be "GIS -ready."

Providing that SAGPyA does not need a specialized format to receive the data, there are not any expected costs. If SAGPyA does need specialized and different data format than already provided, then there will be additional costs.

Several of the format choices have been made in consultation with noted industry experts. USDA has relied on the Joint Agency Imagery Evaluation team (JACIE) which is comprised of scientists from National Aeronautics and Space Administration (NASA), U.S. Geologic Service (USGS), and the National Geospatial-Intelligence Agency (NGA). The interaction and process of characterizing commercial satellite data products may be of interest to SAGPyA. Certainly they would need to know that calibration of the data sets has occurred. Travel to the JACIE conference which occurs in the Washington DC area in March for SAGPyA technicians would need to be budgeted.

7. Can SAGPyA build the desired end product—the Cropland Data layer?

SAGPyA will be exchanging methodologies with the NASS on developing the Cropland Data layer. Since NASS is the recognized expert in designing and building the Cropland Data layer, it is expected that SAGPyA will be alerted to the specialized software needed, the processes to do the supervised classifications of the satellite imagery, and the necessary amounts of ground truth needed to test the accuracy of the product. These costs are not trivial, especially the required amount of ground truth. USDA has no need to budget for ground truth expenses as it will be covered by SAGPyA.

8. How will the project be sustained after project funds end?

The Cropland Data layer is an annually produced product and relies on gathering ground truth each year in a systematic, statistically sound manner. It requires several, multi-temporal acquisitions of satellite imagery for each location every year. Costs for the ground truth and the satellite imagery are high. SAGPyA may consider joining the USDA-SIA as a paying member after project funds end. For the fee of \$50,000 they would have access to all of the P6-AWiFS satellite imagery of Argentina. This arrangement would be mutually beneficial to SAGPyA and to USDA-SIA. An international agreement to facilitate this arrangement would need to be written, negotiated and agreed upon. Funds for the FAS-Office of Capacity Building and Development would need to be included to write and negotiate an agreement. This is needed only if this path is chosen.

Alternatively, the Government of Argentina and the Government of India could arrange to exchange data or technology. The Government of Argentina could have a ground station in Argentina to download satellite imagery and not need the arrangement with the USDA-SIA. Currently, the Space Agency of Argentina (CONAE) operates a ground station in the city of Cordoba. The ground station downloads Landsat 5 data but does not have equipment to download the P6-AWiFS data.

Continued access to satellite imagery is sustainable and there are multiple paths that SAGPyA may take. The concern would be the continued collection of suitable ground truth for an end product such as the Cropland Data Layer.