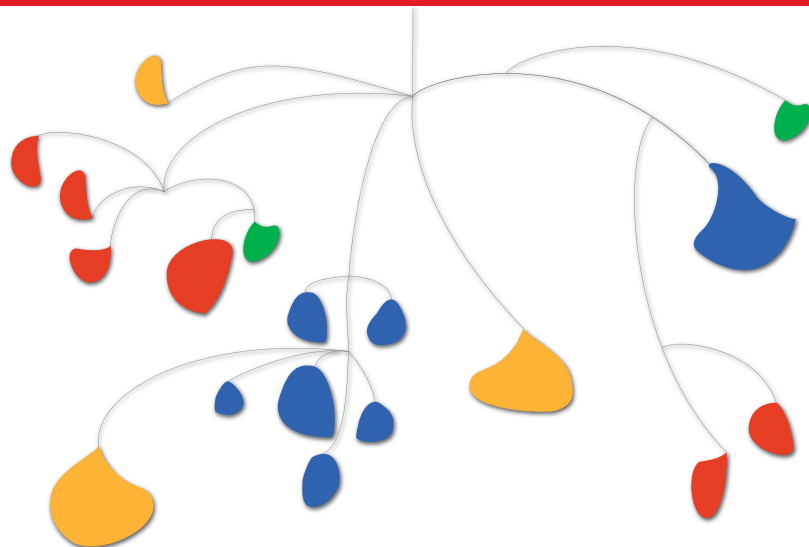


FIVE-YEAR PROGRESS REPORT OF THE GLOBAL FOOD MARKET INFORMATION GROUP



Introduction

1. The Agricultural Market Information System (AMIS) was created in September 2011 to improve information on the global supply and demand situation of wheat, maize, rice and soybeans, and to facilitate policy dialogue in case of market uncertainty. Enhanced market transparency, coupled with improved coordination among AMIS participants during crises, was to avoid excessive food price volatility and reduce the likelihood of sudden food price spikes such as those experienced in 2007/08 and 2010/11.
2. Five years into the life of AMIS, this document provides an overview of past achievements and outstanding challenges. It particularly focuses on the work of the Global Food Market Information Group ("Information Group") and its interaction with the AMIS Secretariat to provide "regular, reliable, accurate, timely and comparable data [...] and to] organize the timely collection of national policy developments that could impact the market situation."¹ Other AMIS activities, such as research and policy dialogue, will be mentioned only as they relate to the work of the Information Group.
3. The document is structured as follows: After explaining the objectives and structure of AMIS, it reviews how the work of the Information Group has evolved since 2011, especially as regards the Group's main function of providing timely and reliable supply and demand balances to the AMIS Secretariat. The document then looks at the role of capacity development in helping participants fulfil their commitments towards AMIS and discusses outstanding issues that need to be addressed. A subsequent section presents achievements in enhancing market transparency and effectively disseminating information, including on policy developments that might impact on global commodity markets. The report concludes with a summary of the Information Group's progress over the past five years and an outlook of future work priorities.

Background to the creation of AMIS

4. The sharp rise of the prices of main food commodities in 2007/08 and then again in 2010/11 caught the international community by surprise and

raised severe food security concerns. Reviewing the price surges in September 2010, the FAO Intergovernmental Groups on Grains and Rice identified a "lack of reliable and up-to-date information on crop supply and demand and export availability" amongst the root causes for the unexpected price hikes. As explained in the meeting report², insufficient market transparency can result in price bubbles and excessive volatility. In addition, and as evidenced especially in the 2007/08 price surges, it can lead to panic buying and hasty policy responses by key importing and exporting countries that further aggravate market instability.

5. In their "Action Plan on Food Price Volatility and Agriculture"², the G20 Ministers of Agriculture recognized "the need to improve the quality, reliability, accuracy, timeliness and comparability of data on agricultural markets", and "to promote greater shared understanding of food price developments." Against this background, the Action Plan suggested the creation of AMIS "to encourage major players on the agri-food markets to share data, to enhance existing information systems ... and further policy dialogue and cooperation." The initial focus of AMIS was placed on four commodities that are widely traded in international food markets, namely wheat, maize, rice and soybeans.

6. In its effort to monitor global agricultural markets, AMIS benefits from the fact that the bulk of world production, consumption, stocks and trade of the AMIS commodities is accounted for by a relatively limited number of countries. Thus, apart from the G20 members and the permanent guest member Spain, the initiative invited only seven other main producing and consuming countries of the targeted commodities. These are: Egypt, Kazakhstan, Nigeria, the Philippines, Thailand, Ukraine, and Viet Nam. The European Union as a G20 member collectively represents all EU member states. Together, AMIS participants account for about 90 percent of global production and exports of wheat, maize and soybeans, and about 80 percent of global production and exports in the case of rice.

¹ AMIS (2011): Agricultural Market Information System - Terms of Reference.

² G20 (2011): Ministerial Declaration - Action Plan on Food Price Volatility and Agriculture, Meeting of G20 Agriculture Ministers, 22-23 June 2011.



Information gaps targeted by AMIS

7. An inter-agency scoping report on “Improving Food Market Transparency and Policy Response for Food Security”³, drafted by the initial member organizations of the AMIS Secretariat in the lead-up to the launch of AMIS, outlined the main weaknesses of existing information systems that the initiative should address. The work priorities of AMIS to improve available market information can be summarized as follows:

- Improve the quality and timeliness of official country data on crop production and utilization and make these data available to international information providers.
- Provide reliable information on stocks.
- Establish effective links between national agencies responsible for market outlooks and international information providers.
- Ensure that available market outlook analysis captures developments in other relevant sectors, such as energy, as well as financial and agricultural input markets.
- Strengthen linkages between market analysts and stakeholders in the private sector, such as commodity associations and investment funds, in order to reflect the important role that some of these actors play in international food markets.

8. In addition to enhancing available market information, AMIS monitors policy developments in order to help anticipate and resolve crises. Priority policy information collected by AMIS includes:

- Changes in trade regimes with an impact on international commodity markets, such as import and export measures.
- Domestic support policies that affect the supply and demand position of agricultural commodities and consequently their price level.
- Domestic stocking policies, which have a significant impact on the overall supply of commodities in agricultural markets.
- Biofuel policies, such as mandated production volumes of ethanol and biodiesel, which have an impact on available food supplies.

³ FAO, IFAD, IFPRI, OECD, UNCTAD, UN HLTF, WFP, the World Bank Group, and WTO (2011): Improving Food Market Transparency and Policy Response for Food Security: The Agricultural Market Information System”, A Scoping Report.

Structure of AMIS

9. AMIS was created with two main objectives: (i) ensure an effective collection of food market and policy information and contribute to the identification of global food price crises; and (ii) coordinate international policy responses in the event of an international food price surge. The structure of AMIS reflects these two objectives, with the Global Food Market Information Group helping to enhance market transparency and the Rapid Response Forum ensuring an effective policy response mechanism. Both of these country groups are supported by the multi-agency Secretariat of AMIS.

10. The Information Group is composed of market experts (referred to as focal points) from AMIS participants who provide the Secretariat with the latest information concerning the supply and demand position of the AMIS crops in their respective countries⁴. Focal points are also asked to inform the Secretariat of any policy developments that may impact on the market situation and the short-term outlook. The Information Group meets twice a year; the meeting in October 2016 marks the 10th Session.

11. The Rapid Response Forum promotes early discussion about international market conditions and encourages coordination of policies and the development of common strategies, especially when the market situation and outlook indicates a high food security risk. The Forum is composed of Senior Officials from AMIS participants and meets as needed, but at least once a year. The last meeting of the Forum in March 2016 marked the 5th Session.

12. The Secretariat is responsible for producing market outlooks, assessments and analyses. It also supports all functions of the Forum and the Information Group, and performs other administrative functions as needed. At the time of drafting this document, the Secretariat consisted of eleven international organizations and entities, namely FAO, GEOGLAM, IFAD, IFPRI, IGC, OECD, UNCTAD, the UN High Level Task Force on the Food Security Crisis, the World Bank Group, WFP and WTO. The Secretariat is hosted in FAO headquarters in Rome.

⁴ The notion of “countries” also comprises the European Union. However, to avoid any misunderstanding, this document refers to AMIS participants (rather than AMIS participating countries) and focal points (rather than country/national focal points) whenever possible.



13. In the absence of any major price crises in recent years, a review of the progress of AMIS has to primarily consider the initiative's information collection function. This document thus focuses on the work of the Information Group and its interaction with the AMIS Secretariat.

Evolution of the Information Group work

14. The work of the Information Group during the first five years of AMIS can be divided into three main phases: (i) Stocktaking of available information and methodologies (September 2011 to February 2012); (ii) Collection of historical supply and demand balances (February 2012 to October 2013); and (iii) Regular submission of supply and demand forecasts (since October 2013).

Stocktaking of available information and methodologies

15. In order to establish the Information Group's work programme, the AMIS Secretariat assessed the status quo of AMIS participants regarding the construction of supply and demand balances. At the 1st Session of the Information Group in February 2012, therefore, focal points were asked to present the methodologies they apply, the information sources they consult and the linkages that exist among the different agencies involved in the production of agricultural market information. Many participants emphasized the difficulties in providing information on a regular basis and the need to differentiate between public and private data. Furthermore, it was decided that the European Union would submit data to AMIS for the EU as a whole and not differentiate individual EU member states that also participate in AMIS (i.e. France, Italy, Germany, Spain and the United Kingdom).

Collection of historical supply and demand balances

16. Based on the findings of the stocktaking exercise, focal points then had to provide the AMIS Secretariat with historical supply and demand balances for the marketing seasons 2000/01 to 2012/13. This phase had two main objectives, namely to evaluate the capacity of AMIS participants to fulfil their commitment for regular data

submissions and to derive a common methodology that should be applied by all participants to ensure that data can be compared and aggregated at global level.

17. Initial results of this exercise were discussed at the 2nd Session of the Information Group in October 2012, based on historical balances submitted by 14 participants. While it became obvious that the respective focal points had already established good practices with respect to managing supply and demand balances for their own national needs, significant methodological differences among the balances made the comparison of data and their aggregation at global level difficult. Main challenges included the definition of a meaningful national marketing year; inconsistencies in the composition of products used in trade estimates; and differences in the breakdown of domestic utilization into its main components, i.e. food, feed and other uses. The meeting also featured a round-table discussion with representatives of the private sector (see Box 1).

18. Between October 2012 and October 2013, the Secretariat deepened its exchanges with focal points and familiarized them with the methodological guidance developed by AMIS. These exchanges helped to improve and harmonize the historical balances provided by participants so that the status of data submission could be considered satisfactory at the 4th Session of the Information

Box 1: Reaching out to the private sector

Following the guidance of the AMIS Terms of Reference to reach out to the private sector, the AMIS Secretariat invited representatives of trading houses, investment funds and commodity associations to the 2nd Session of the Information Group. In this regard, the meeting was a first step in promoting public-private dialogue on market developments and trends, and to build trust among the various stakeholders in global agricultural markets. Participants included Morgan Stanley, Macquarie, Rabobank, the US Grains Council and COCERAL, among others. Since this initial encounter, the AMIS Secretariat has systematically tried to involve private sector representatives to AMIS events in order to benefit from their expertise in market monitoring, for example by inviting them to the expert meeting on stocks measurement in November 2014 (see Box 2).



Group in October 2013. Specifically, among the 23 AMIS participants, 14 had submitted good historical balances for all AMIS crops in terms of data accuracy and the appropriateness of the methodology that was applied; six participants had submitted balances for at least one of the AMIS commodities, but these balances were either incomplete, inconsistent or incompatible with the AMIS requirements; and three participants had not provided any information.

Regular submission of supply and demand forecasts

19. Starting from July 2013, focal points were asked to send their supply and demand forecasts for the next marketing season. The shift from historical balances to forecast information marked an important step in the work of the Information Group as it allowed the Secretariat to gradually integrate national balances for the preparation of global market outlooks of AMIS. The request for the submission of forecast information was confirmed at the 4th Session of the Information Group in October 2013. Since then, focal points have been asked to submit their forecasts for the next marketing season starting in April of each year, and to regularly update their figures as the season progresses.

20. During this phase, the Secretariat also intensified collaboration with a number of focal points that had volunteered to decompose their historical supply and demand balances on a monthly basis. Those who participated considered this exercise as extremely useful as it exposed potential weaknesses of the annual numbers and helped to define a meaningful national marketing year for each crop. The exercise also provided new insights on stocks levels as negative values in any given month would indicate an underestimation of available inventories.

Modalities of data exchange and dialogue

21. Just as the data requirements have changed over time so have the modalities to submit this information. While focal points had initially sent data in the format of their own respective agencies, the AMIS Secretariat developed a common methodology and template to be applied for each month's submission. Specifically, each

focal point is now asked to complete a specific Excel file that shows all required data and metadata, including flags for the different forecasting methodologies being applied, which ensures that data from each AMIS participant are harmonized into the same format.

22. Most exchanges between the AMIS Secretariat and focal points occur via email. Specifically, data are submitted by the focal point to the liaison officer in the AMIS Secretariat who carries out an initial check on the consistency and quality of the submitted data. In the case of problems, the data file can go back and forth several times between the AMIS Secretariat and the focal point until the information is considered relevant and complete. The information is then entered into the AMIS Market Database in the section devoted to national data, where it is only visible to the focal points and the AMIS Secretariat. At this point, the data are passed on to the commodity and/or country experts of the AMIS Secretariat in Rome who analyse the submitted information and use it along with other data from public and private sources to build the AMIS forecasts.

23. In some cases, the email exchanges might be complemented by phone calls with the respective focal point, or bilateral discussions that have been organized in the framework of the regular meetings of the Information Group. Several problems could be resolved through these mechanisms, especially those that resulted from a lack of understanding of the data needs of AMIS. In order to address more fundamental issues, country visits have proved to be an effective way to improve collaboration. These visits have usually had three main objectives:

- Collect and review information regarding data sources and methodologies used to build supply and demand balances;
- Assess a country's capacity to monitor its supply and demand situation and provide forecasts to the AMIS Secretariat on a regular and timely basis; and
- Address issues encountered by the focal points in compiling and transmitting information to the Secretariat in the required format.

24. Apart from using the visits to work intensively with the respective focal point, the AMIS team usually also tries to meet with other officials who are involved in data



collection, analysis, forecasting and dissemination. Over the past five years, the AMIS Secretariat has visited eleven participants, namely Argentina, Egypt, European Union, India, Indonesia, Kazakhstan, Mexico, Russian Federation, Thailand, Turkey and Viet Nam. The visits significantly improved the dialogue between the AMIS Secretariat and the respective focal point, and frequently also paved the way for the focal point's participation in the AMIS Exchange Programme.

Assessment of data submissions by focal points

25. Forecasts submitted by focal points have been regularly assessed by the AMIS Secretariat using three criteria:

- The quality and the frequency of the dialogue between the AMIS Secretariat and the focal point;
- The consistency and the completeness of the supply and demand balances; and
- The regularity and the timeliness of submissions.

Quality and frequency of the dialogue

26. As regards the quality and the frequency of the dialogue, the AMIS Secretariat has put significant efforts into establishing and maintaining contacts with all focal points. This has been achieved for most AMIS participants, but to varying degrees and depending on the specific data requests sent out by the Secretariat.

27. During the collection of historical balances, communication between the AMIS Secretariat and participants was generally productive except in the case of Egypt, Nigeria and Kazakhstan who never responded to the requests. In some cases, especially if the focal points were not familiar with commodity balances, email communications were supplemented with country missions to clarify important methodological concepts of AMIS (e.g. Thailand and Viet Nam at the end of 2013).

28. When AMIS requirements shifted from the compilation of historical balances to the collection of regular forecast information, communication became more challenging with a number of focal points. While exchanges were swift and productive with those participants that

had already produced regular forecasts, such as Australia, Canada, European Union, Philippines, Ukraine and United States, exchanges with others initially suffered from large time lags before an answer was received or the absence of constructive proposals to the issues raised by the AMIS Secretariat. Consequently, several issues remained pending as the momentum to find a solution was usually lost, particularly if the focal point did not respond within a week after the Secretariat had pointed out a problem.

29. Over time, the quality and the frequency of the dialogue between the Secretariat and the focal points has become much more satisfactory. Most focal points are now very responsive and proactive in addressing outstanding issues and collaborating with the AMIS Secretariat, which has been instrumental to substantially improve data submissions. Improvements have been particularly significant following the establishment of a personal contact between the AMIS Secretariat and the respective focal point, either through a country visit and/or the focal point's participation in the AMIS Exchange Programme. Unfortunately, dialogue is practically non-existent with the Republic of Korea and Nigeria.

Consistency and completeness of the balances

30. When assessing the quality of the balances, it is difficult to disassociate the phase of collecting historical information from the phase of collecting regular forecasts. Indeed, several issues that were thought to have been resolved at the end of the collection of historical information resurfaced during the forecasting exercise, such as the definition of a meaningful national marketing year or the distinction between private and public stocks. Although common guidelines have been developed for building AMIS balances and forecasts, some methodological issues still persist today as focal points struggle to modify their own practices to abide by the AMIS requirements.

31. While these issues differ from participant to participant, and frequently also from commodity to commodity, some common patterns can be identified. Similar to historical balances, *production* appears to be the least controversial element in the forecasts. Most AMIS participants forecast *production* by applying trends or models using data derived from field surveys or satellite imagery. By contrast, information on *exports and imports* is much more problematic. As customs data are usually limited



to the past months, trade forecasts that are submitted to the Secretariat are frequently also limited to periods for which customs data are available. *Utilization* is an equally challenging category, often showing impossible or unrealistic values of the different end uses of the respective commodity. For instance, when calculated as a residual, negative figures for *other uses* or unrealistically high figures for *food use* may be obtained. Moreover, when *food use* is calculated as the residual, very large – and thus unrealistic – year-to-year variations can be observed, especially if other elements in the balance are faulty.

32. As regards the completeness of the balances, a recurrent shortcoming is the insufficient breakdown of *domestic utilization*, which should include *seed*, *post-harvest losses* and *industrial use*. However, the most critical gap in many balances refers to *closing stocks*, which are either not reported or filled with unreliable information that is not based on sound measurement techniques such as surveys (see Box 2 for an overview of AMIS activities to improve stocks measures). Indeed, most AMIS participants treat stocks as the balancing element, meaning that the quality of the stocks figure depends on the accuracy of the other elements in the balance. In addition, many participants do not report all types of stocks, which should include both public and private stockholding.

Box 2: Improving stocks measures

One of the key mandates of AMIS is to improve information on available reserves. Among the efforts to provide better stocks data the AMIS Secretariat has funded research activities and organized a series of expert consultations. For example, a meeting in London (November 2014) discussed general aspects of measuring stocks, such as the preferred timing and methods to be applied, while a consultation in Beijing (July 2015) addressed the specific needs of China for establishing better stocks data. Another expert meeting, to be held in November 2016, will analyse the situation in India, which is important given the size of its economy and its growing population. In addition to these meetings, the AMIS Secretariat has prepared a database of best practices in measuring stocks and commissioned a scoping report on stocks measurement by Professor Philip Abbott of Purdue University, who presented his findings to the 4th Session of the Rapid Response Forum in London (March 2015).

33. Overall, the quality of the balances has improved markedly since the creation of AMIS and especially in 2016 when many countries succeeded in bridging the information gap with the more advanced AMIS participants. Apart from sending better forecasts to the Secretariat, countries also provide more complete and relevant metadata information. Specifically, changes in forecasts are now usually communicated with some explanations as to why certain figures were adjusted, and information about forecasting methods is updated as the season progresses. Better metadata is essential as figures alone, i.e. without explanations on how these were established, are of little use for the AMIS analysts who need to decide on the validity of the information.

34. As with other areas, progress has been particularly strong when a personal contact has been established, either through country visits or by welcoming focal points in the framework of the AMIS Exchange Programme. Although the improvements might not be immediately visible (especially in the case of the AMIS Exchange Programme – see the section on capacity development), several examples illustrate that these personal contacts have been instrumental for AMIS to have a meaningful impact.

Regularity and timeliness of submissions

35. Most progress has been achieved regarding the regularity and the timeliness of the forecast submissions. In 2014 and 2015, focal points who provided information usually did so on a quarterly basis. In 2016, most submissions have been monthly, which is important so they can be considered for the regular market outlooks prepared by the AMIS Secretariat.

36. As for timeliness, a good indicator to measure progress is the share of AMIS participants that have submitted their forecasts for the next marketing season in May of each year. While only one in four had submitted the 2014/15 forecasts in May 2014, this share had increased to about half in May 2015 (for the 2015/16 season) and to two thirds in May 2016 (for the 2016/17 season). These improvements could materialize because several focal points have taken the initiative to transmit information to the AMIS Secretariat before forecasts are officially released by their respective governments.



Summary of progress and recommendations

37. Applying the evaluation criteria outlined above, the AMIS Secretariat distinguishes four groupings as regards the quality and timeliness of data submissions. Participants that meet most of the AMIS requirements form the “green” group, which means that their balances can be considered for the global market outlooks of the AMIS Secretariat. With a total of 14 members, this group is now by far the most important, which is a recent and very positive development. The AMIS Secretariat will continue working with the respective focal points to further improve their balances and to ensure that any remaining issues will be overcome. Two participants are in the “yellow group” due to the submission of incomplete balances or slow reaction to the inquiries of the AMIS Secretariat. Their balances are usually of good quality, but remaining information gaps or unresolved issues might jeopardize the usefulness of the balances for the market forecasts of AMIS. Five participants are in the “orange group” because of persistent methodological flaws, poor dialogue or the lack of regular forecasts, which makes it impossible to consider their inputs for the global monitoring work of AMIS. This outcome is particularly regrettable as the focal points of three of these countries have participated in the AMIS Exchange Programme. Lastly, the AMIS Secretariat has not succeeded in establishing a constructive dialogue with two participants that form the “red group”, despite numerous and continued attempts to liaise with the respective focal points.

38. While progress in the collection of supply and demand balances is evident and encouraging, more efforts are needed to ensure that the data submissions of participants continue to support the mandate of AMIS. To this end, the AMIS Secretariat has identified several ways in which focal points could improve their contributions. Most importantly, market information should be delivered ahead of the normal crop forecasting schedule that is in place in the respective countries, and regular updates of the balances should be sent even when *production* estimates have not changed. Moreover, the AMIS Secretariat would recommend that focal points broaden the indicators they monitor, from typically relying on agro-meteorological factors to also considering policy developments and changes in economic fundamentals for their possible impact on the forecasts.

39. Many focal points furthermore seem to work in isolation and frequently lack the authority to request information from other ministries or the private sector to compile good balances. The AMIS Secretariat has therefore encouraged the creation of “Support Teams” that should include representatives of several institutions, including the ministries of agriculture, trade and consumer affairs (see Box 3).

40. The AMIS Secretariat aims to have countries that are currently in the “yellow” and “orange” groups among those that broadly meet the AMIS requirements by the middle of 2017. This objective seems achievable, based on the positive momentum in 2016 and the intense dialogue that is currently taking place with the respective focal points. Once all AMIS participants with whom the Secretariat has established working relations prepare sound balances, the transmission of information could change from email correspondence to the electronic submission of balances through an online input tool. This input tool is currently in development and would make the data transfer much more efficient, for example by checking for logical errors when completing the input template as well as by avoiding possible errors and saving time when data are manually entered into the AMIS database from the Excel files. Until this stage is reached, however,

Box 3: Encouraging inter-agency collaboration

The compilation of AMIS balances is a complex task that requires information and expertise on various topics, including expected production, consumption, stockholding and trade of the four AMIS crops, and frequently other commodities that are competing with or otherwise linked to these crops. Against this background, it is rare that one agency alone will have all of the required information. In order to encourage inter-agency collaboration, the AMIS Secretariat has suggested the creation of “Support Teams”, which should include representatives of several ministries and may even reach out to the private sector. Given its particular mandate and governance structure, the European Union has already applied such collaborative approach for some time when compiling the EU balances. Other AMIS participants for which communication between agencies seems to have improved include Argentina, Brazil, Mexico and the Russian Federation.



email correspondence will remain the most appropriate mechanism to identify, discuss and resolve any outstanding issues.

The role of capacity development to support the mandate of AMIS

41. Apart from compiling existing market and policy information, AMIS also has an important role to “build the data collection capacity in participating countries”, as outlined in the AMIS Terms of Reference. Against this background, the AMIS Secretariat has engaged in a number of capacity building activities to help countries support the mandate of AMIS for better food market information and analysis. While the AMIS Exchange Programme directly targets focal points of the Information Group, two multi-year capacity building projects have supported the statistical systems of the respective beneficiary countries. The Secretariat has also encouraged capacity building through peer learning within the Information Group so that focal points can benefit from the experiences of colleagues who work with more advanced agricultural information systems.

AMIS Exchange Programme

42. The Exchange Programme was initiated in October 2014 to help participants prepare their regular data submissions to the Secretariat and to sensitize them to the information needs of AMIS. The Programme allows selected candidates to work together with the AMIS Secretariat for a period of around two months. Participants are either the official focal points or otherwise closely involved with the construction of national balances.

43. During their stay with the Secretariat, participants gain first-hand experience in the daily work of AMIS, especially as regards the collection and validation of market information from various sources; the aggregation of data at global level; and the preparation of market forecasts. Participants work closely with the commodity specialists of the Secretariat in order to learn how to harmonize information and to familiarize themselves with the methodological guidelines and best practices recommended by the Secretariat.

44. The Programme is divided into four models as follows:

- Module 1: AMIS background, objectives and outputs
- Module 2: Methodological aspects of supply and demand balances/Forecasting techniques
- Module 3: Country case studies/Construction of national balances and forecasts
- Module 4: Introduction to other AMIS activities/Policy monitoring and the AMIS Policy Database

45. Module 1 is mostly descriptive and aims at explaining why AMIS was created and how it works. This introductory phase also gives participants an opportunity to meet the various experts working with the AMIS Secretariat, which is important in paving the way for an efficient and lasting collaboration.

46. Module 2 focuses on the concept of commodity balances and the basic forecasting techniques that are being applied. In this way, the module helps in creating a shared understanding of the construction of supply and demand balances and the difficulties that can arise in aggregating such balances at world level. Special attention is given to methodological differences between the main producers of food market information, both at national and global level. This information is critical to help participants identify all available sources of data and determine which information to use for their market analyses.

47. Module 3 allows participants to put their new skills into practice and apply the various techniques for the construction of their own balances. First, participants discuss the information sources and methodologies they want to apply with the AMIS commodity experts. Once agreed, participants revise their countries' historical balances and update them with the latest forecasts using the concepts and techniques that are discussed in Module 2. For this task, participants are encouraged to stay in close contact with national experts in their home ministries and the commodity experts in the Secretariat. At the end of this module, participants present their findings and discuss them with the AMIS team. In order to deepen the dialogue with the different national experts and identify remaining research needs, a list of guidelines is established by the AMIS Secretariat to further improve the balances after the Programme finishes.



48. Module 4 opens the perspective to other activities, tools and concepts of AMIS, such as the measurement of feed utilization, the definition of price volatility, and the analysis of futures markets. The module also includes a session on policy monitoring during which participants work with the policy experts at OECD, for example on using the AMIS Policy Database and conducting policy surveys.

49. So far, the Programme has organized three cycles and welcomed participants from China, India, Indonesia, Kazakhstan, South Africa, Thailand and Viet Nam. For some of these countries, the exchange has already resulted in a significant improvement in the quality of the forecasts they submit to the AMIS Secretariat. In other cases, improvements of the technical skills of individual participants have yet to translate into the production of better forecasts by the respective country. The fourth cycle of the Programme is scheduled to start in October 2016 with the Russian Federation as well as the renewed participation of India.

Multi-year capacity building projects

50. In addition to supporting AMIS participants through the Exchange Programme and through continuous exchanges with focal points, the AMIS Secretariat has also been engaged in two multi-year capacity building projects. These projects have supported various aspects of the national statistical systems in the selected beneficiary countries in order to produce better data for more reliable and timely food market information.

Strengthening Agricultural Market Information in Thailand and the Philippines

51. This project improved the capacity of Thailand and the Philippines to effectively monitor rice markets and deliver accurate statistics. It was operational from November 2012 to January 2016 and was funded by the Government of Japan.

52. Main achievements in Thailand include the introduction of “Computer Assisted Personal Interviewing” (CAPI) techniques to support the country’s rice survey, for example by organizing training events for staff of the Office of Agricultural Economics (which is the counterpart of the AMIS Secretariat), providing technical equipment (e.g.

tablets, desktop computers and a server) and identifying additional requirements for the complete integration of CAPI at national level. Furthermore, the project financed a study by the Thailand Development Research Institute to estimate rice usage, which is expected to improve the quality of Thailand’s rice balance sheets.

53. In the Philippines, the project supported the implementation of rice crop-cutting surveys, for example by helping to design the survey methodology, conducting a pilot survey, and training staff of the Philippine Statistics Authority (which is the counterpart of the AMIS Secretariat). The survey has contributed to better estimates of rice production, based on a system of convergence of evidence. To ensure the lasting impact of this project, a multi-year survey setup was developed to integrate the crop-cutting surveys into existing instruments. Staff of the Philippine Statistics Authority furthermore received training on strengthening data quality controls through an in-depth analysis of available rice survey data. Based on this training, several recommendations were made to improve the existing data system.

Strengthening Agricultural Market Information Systems globally and in selected countries

54. This operationally active project has been supporting Bangladesh, India and Nigeria since August 2012 in producing better agricultural market information through innovative methods and digital technology. The project also contains a global component that looks at ways to improve the use of existing market information through appropriate IT tools and platforms, and develops enhanced methodologies to forecast crop production, measure stocks and manage price data. It is financed by the Bill and Melinda Gates Foundation.

55. Achievements at global level include the development of a mobile application for the collection of food price data and an associated platform for the real-time dissemination of this information; the release of new price series and improved functionalities of the GIEWS Food Price Monitoring and Analysis Tool (www.fao.org/giews/pricetool/); the compilation of guidelines for designing and implementing grain stock surveys (currently being peer reviewed); the publication of a study assessing methodological and institutional aspects of crop yield



forecasting; and the testing of crowdsourcing techniques for price data collection. Currently, the project plans to support the development of a Data Quality Assessment Framework that will touch upon the different levels in the market supply chain of the AMIS crops: production, wholesale, retail and international trade.

56. In Nigeria, the project has organized several capacity building workshops on data documentation and archiving standards as well training sessions on the Standards of Data and Metadata Exchange (SDMX) and CAPI. These activities strengthened capacities within a number of AMIS data producing agencies, including the Federal Ministry of Agriculture and Rural Development; the National Bureau of Statistics; and the National Agricultural Extension and Research Liaison Services.

57. In India, where activities did not start before early 2016, the project has organized several field visits to help harmonize the price data that are being generated by different organizations across the country. Findings from these field visits will help design a standardized methodology for collecting and disseminating commodity prices and arrivals data from markets, as well as recommendations for improving data collection and dissemination at market level. The project also plans to develop a methodology to collect private stocks data, which will complement the current national system to record stocks of rice, wheat and coarse grains held by government agencies. To this end, an international seminar on “Approaches and Methodologies for Food Stocks Measurement” will be organized in November 2016.

58. Finally, the project has been supporting various activities to strengthen agricultural market information in Bangladesh, which is not an AMIS participant but an important producer and consumer of rice at regional level. Specifically, the project developed, field tested and disseminated a methodology for the estimation of cultivated area in order to improve the country's crop production forecasts. The new methodology and other aspects of improved data collection, crop monitoring and production forecasting were further discussed in the framework of an international seminar and several training workshops. The project also supported activities to assess uses of food grain stocks of rice, wheat and maize, including a systematic review of food stocking behaviour in the country.

Peer learning/country exchanges

59. As illustrated in the AMIS Terms of Reference, AMIS is based on a “collaborative effort between main producing, exporting and importing countries, in association with international organizations”. In view of this collaborative effort, the AMIS Secretariat has continuously encouraged focal points to exchange their experiences and best practices with other colleagues in the Information Group. For example, the Secretariat invited selected focal points to present new research findings, methodological innovations and institutional solutions to generate better market information at several meetings of the Information Group, including the United Kingdom (on the impact of biofuels policy on global food prices); the United States (on developing biofuel indicators for AMIS and on improving maize and soybeans forecasts); Japan (on predicting seasonal climate-induced variations in global food production); and the European Union (on issues in measuring volatility).

60. The Secretariat has also placed great emphasis on peer learning in the framework of the multi-year capacity building projects. For example, Thailand and the Philippines organized three joint workshops to discuss common problems and identify possible solutions to improve rice statistics in their respective countries. In addition, the project organized study tours each year to allow Ministry staff to learn from their colleagues. Thanks to these exchanges, the implementation of the crop-cutting surveys in the Philippines could benefit from the lessons learnt with this measurement technique in Thailand. Conversely, improvements in data quality control mechanisms in Thailand built on the experiences of the Philippines and their advanced statistical system. Finally, the Secretariat has promoted collaboration across different projects. For example, a study tour of selected staff from the Bangladesh Bureau of Statistics to Quezon City familiarized participants with activities of the Philippine Statistics Authority to measure food grain stocks of rice, wheat and maize.

61. In addition, AMIS encouraged peer-learning among participants without the direct involvement of the Secretariat. For example, Japan worked with Australia, Canada and the United States on finding solutions to improve its rice forecasts. Similarly, Indonesia worked with the United States on improving the country's maize



balances, especially as regards national production figures that systematically exceed those of other data producers. Although these exchanges might not yield an immediate solution, the AMIS Secretariat believes that they have tremendous value in strengthening collaboration and thus invites other focal points to actively engage with their colleagues in the Information Group.

Information dissemination

62. When reviewing the progress of AMIS, a main aspect that needs to be considered is the extent to which available market information has improved. In this regard, several achievements of AMIS can be mentioned, but arguably the most important outcomes over the past five years have been the creation of an electronic market and policy database, the release of an indicator portal as well as the regular production of the AMIS Market Monitor. Although difficult to measure, this section also tries to assess in how far available market information has become more reliable.

AMIS Market Database and Indicator Portal

63. As one of the first outputs of AMIS, a collaborative database was released in 2012 to compile available data from the main producers of global market information (FAO, IGC and USDA). These data can be accessed on the publicly available AMIS Market Database (<http://www.amis-outlook.org/database/market-database/en/>).

64. The database has been regularly updated and improved with new features. For instance, a data download and comparison tool allows to visualize balances across commodities, across sources and across countries. Detailed information on the origin of the data and the methodologies that have been applied furthermore help to better assess the reliability of available market information.

65. The database also contains a section for balances provided by AMIS participants, which is only accessible to focal points and the AMIS Secretariat. While these data were initially open to the public, the Information Group decided that balances from AMIS participants should be

treated confidentially and only be used for aggregation at global level. In this way, AMIS participants are encouraged to provide information to the Secretariat ahead of the official release of these data. Furthermore, this approach helps avoid possible discrepancies of national forecasts that are published by AMIS and by the respective governments.

66. Market information provided by AMIS is not limited to supply and demand balances, but also includes possible drivers that could impact on the market situation and outlook. To this end, the AMIS Secretariat created a web portal for market indicators, which was first introduced at the 3rd Session of the Global Food Market Information Group in 2013. Users of this portal can select from a variety of indicators, including stocks-to-use ratios, energy prices and ocean freights, which can be visualized and downloaded for further analysis.

67. Since the launch of the portal the Secretariat has continuously expanded the list of indicators that are monitored, explored ways to automate their updates, improved the usability of the interactive indicators charts, and provided background information to correctly understand, assess and contextualize the indicators. In addition, the Secretariat has continued its quest for the development of global indicators that could signal market risk, as requested by the AMIS Terms of Reference (see Box 4).

AMIS Policy Database

68. Given the impact of numerous policy levers on food price volatility, policy monitoring constitutes another important aspect of the work of AMIS. The agreed Terms of Reference entrust AMIS to “collect and analyse policy information, promote dialogue and responses, and international policy coordination”. In this context, focal points of the Information Group are mandated to provide “information concerning policy changes likely to impact on the production and trade of selected commodities” while those forming the Rapid Response Forum are encouraged to ensure “the coordination of policies and the development of common strategies” in the event of abnormal market conditions. As explained above, this document particularly focuses on the collection and management of information rather than the coordination of policy responses, in view of the absence of critical market conditions in recent years.



Box 4: Detecting market instability

One of the main goals of AMIS is to establish market indicators that can be used to monitor price volatility and serve as a forward-looking early warning system for policy makers, producers and consumers. Against this background, the AMIS Secretariat has been engaged in various activities to identify adequate measures to signal market risk. For example, a workshop of AMIS member organizations in 2013 established the initial set of measures that have been monitored through the Indicator Portal. More recently, innovative measures of market instability have been reviewed in an international expert meeting in 2015, including the Excessive Food Price Variability measure of IFPRI; the Food Price Crisis Observatory of the World Bank Group; FAO's work on identifying drivers of volatility; and the Alert for Price Spike indicator of the World Food Programme. The meeting also agreed to establish a forward-looking measure of high market uncertainty that focuses on the general prevailing attitude of investors regarding anticipated price developments. This so-called "sentiment index" is currently being developed by FAO and will be presented at the 10th Session of the Information Group.

69. Over the past five years, AMIS has scored substantial and concrete achievements towards fulfilling its mandate in the area of policy monitoring, analysis and dissemination. As one of the main outcomes, a Policy Database was created that collects information on trade measures and domestic measures for the four AMIS crops as well as on biofuels. The AMIS Policy Database was originally populated with existing datasets of Secretariat member organizations. Specifically, OECD contributed data on Biofuel Policies, Agricultural Export Restrictions, and Producer and Consumer Support while WTO provided datasets on Import Tariffs, Tariff Quotas and Export Subsidies. Each of these datasets uses different methodologies, so their integration into the AMIS Policy Database required the harmonization in structure, nomenclature, description, units, and policy and commodity classifications. The rigorous harmonization process led to the design of a database structure that integrates all the above datasets and allows for comparisons across commodities, across policies and across countries for selected periods of time.

70. After the database structure was completed, the database has been updated with more recent policy

information. For example, information on export restrictions and biofuel policies was collected at OECD from official legal documents, government websites and other reliable sources. In addition, the latest updates in the annual datasets on producer and consumer support estimates, import tariffs, tariff quotas and export subsidies have been incorporated.

71. In close collaboration with the IT team at FAO, a web-based application of the database has been developed, allowing users to easily query and download the recorded policy information. The application is composed of several features:

- A *Visualisation* tool, which provides a set of interactive graphs to give a snapshot of the contents and potential applications of the AMIS Policy Database.
- A *Query and Download* tool, which allows users to select, view and download subsets of the AMIS Policy Database.
- A *Resources* page with explanatory documents, diagrams and links with background information on the organization and contents of the database.
- A *Restricted Access* segment, which enables focal points and the AMIS Secretariat to exchange information on policy developments that are relevant for global agricultural markets.

72. Several versions of the application have been presented during previous meetings of the Information Group. The purpose of these presentations was to gather feedback from the focal points and the member organizations of the AMIS Secretariat and to improve the tool accordingly. The database and the online application were officially launched in October 2015 (<http://statistics.amis-outlook.org/policy/>).

73. Given the importance of monitoring and reporting policy information in real time, a data management tool has been developed to allow focal points and the AMIS Secretariat to record new policy information, and edit and validate existing entries in the AMIS Policy Database. An initial test phase of the tool was conducted in 2016. The new tool will soon be operational and will be made available to all AMIS participants.

74. Going forward, the AMIS Secretariat seeks stronger engagement of focal points in providing regular policy



updates, which will expand the policy information that is publicly available. The possibility to add, modify and validate policy information through the data management tool is expected to reduce the reliance on official notifications and boost the timeliness, coverage and accuracy of existing information. Importantly, more timely policy information will strengthen the capacity of AMIS to anticipate impending food security risks and identify appropriate policy response.

75. In addition to compiling policy information in the AMIS Policy Database, the AMIS Secretariat directly monitors policy developments, either through formal notifications filed under existing reporting mechanisms, or through *ad hoc* published sources. Substantive feedback is subsequently compiled and disseminated in the policy section of the AMIS Market Monitor (see next section). This on-going collaborative exercise between the member organizations of the Secretariat has been essential to ensure a timely and concise coverage of domestic and trade measures of AMIS participants, while simultaneously averting the duplication of news already published by the respective organizations.

AMIS Market Monitor

76. In addition to publishing market and policy information through databases, AMIS has been tasked to provide regular assessments of the market situation and short-term outlook. To this end, the AMIS Market Monitor, first released in August 2012, has become an important means to effectively inform AMIS stakeholders.

77. Published each month except January and August, the Monitor presents the collective assessment of the market situation and outlook by the member organizations of the AMIS Secretariat. Apart from presenting the current supply and demand situation of AMIS crops, the Market Monitor reports on price movements (futures and spot), critical policy changes, and market developments in related sectors, such as energy and fertilizers.

78. Since the October 2013 edition, the report has also featured a contribution from the Group on Earth Observations Global Agricultural Monitoring initiative (GEOGLAM), which was launched by the G20 together with AMIS. GEOGLAM has provided regular updates on the growing conditions of AMIS crops in the world's

major producing regions using satellite imagery, ground observations, and meteorological data. This information has proved a valuable supplement to the analytical work of AMIS. The Secretariat was therefore happy to welcome GEOGLAM as a new member of AMIS in June 2016.

79. The Monitor is the outcome of a truly collaborative effort of all international organizations and entities that form the AMIS Secretariat. Apart from involving all members in the review and clearance of the report, the Monitor combines market intelligence from several partners, including IGC (for the analysis of international prices); OECD and WTO (for the monitoring of policy developments that may impact on commodity markets); FAO (for the preparation and assessment of the global supply and demand situation); IFPRI (for an overview of fertilizer markets); and GEOGLAM (for an assessment of crop growing conditions).

80. Since its launch in 2012, the Monitor has established itself as a trusted source of timely and reliable market information, as evidenced in a user survey and other feedback received by the Secretariat (with respondents appreciating the report as “highly informative” and “extremely useful in providing a snapshot of the global market”). To ensure maximum outreach, the publication is available free of charge on the AMIS website and is disseminated through social media channels such as Twitter. Apart from the pdf version, the report can also be consulted as an electronic version on desktop computers, tablets and smartphones.

Reliability of available market information

81. Assessing the extent to which market information has improved also needs to consider the quality of the published data. This section therefore attempts to provide some insights as to whether available market information has become more reliable since AMIS was created. In the view of the AMIS Secretariat, there are several indications that this has been the case.

82. For one, there has been a general convergence of data from the main producers of global market information over the past five years. This convergence is particularly visible as regards stocks information, where the differences across sources have become noticeably smaller.



83. Striving for greater convergence, however, does not mean that figures will ultimately be the same. Indeed, one of the merits of AMIS has been to openly present the differences across sources, and to explain why all of these viewpoints might provide a valid assessment of the global situation. To some extent it could even be argued that market transparency has benefitted from having diverse views on the market situation and outlook. Thanks to AMIS, however, market analysts now have a better understanding of why these differences exist. In most cases, they reflect differences in the underlying methodologies rather than disagreements regarding the assessment of the market situation, which is an important finding that has increased the level of confidence in global data.

84. In addition, the interaction between AMIS participants and the Secretariat has helped to improve data at national level. For example, the European Union started producing monthly balances in response to the requirements of AMIS. The Russian Federation and especially Ukraine greatly improved their commodity balances, which are now considered reliable. Indonesia adjusted its maize production forecasts, while China has a better understanding of its supply situation, also thanks to the stocks meeting organized by AMIS. Finally, South Africa can be mentioned for introducing a regular assessment of its agricultural market situation, which closely follows the approach of the AMIS Market Monitor.

Conclusion and outlook

85. AMIS has made important progress over the past five years in enhancing market transparency. Apart from improving information on the global supply and demand situation of the AMIS crops, the initiative has contributed to a better understanding of the underlying drivers of commodity markets and their interaction with outside markets, such as energy. Most importantly, however, AMIS has created a platform for constructive dialogue between the main producing and consuming countries of the AMIS crops about the market situation and outlook. The work of the Information Group and its interaction with the Secretariat has been instrumental in this regard.

86. The overall framework of AMIS activities, as outlined in the "Umbrella Programme", identifies four

milestones to be achieved in the period 2012-2017: (i) creation of a global architecture for data management and alignment with national systems for a harmonized collection of available market information; (ii) identification of knowledge gaps and technical needs among AMIS participants, which need to be addressed through technical backstopping and capacity building activities; (iii) continuous monitoring of market drivers and policy developments that may impact commodity markets; and (iv) regular assessment of the market situation and outlook to effectively inform policy makers and other key audiences of AMIS concerning potential market risks.

87. Clearly, AMIS scores highly on each of these four dimensions. However, the initial phase of AMIS is not yet complete, especially considering that the balances of several AMIS participants can still not be used for aggregation at global level. A main objective going forward will thus be to ensure that all AMIS participants constructively collaborate with the Secretariat and provide regular updates of their supply and demand situation according to the AMIS requirements.

88. Another challenge relates to ensuring the sustainability of past achievements. Especially through the work of the Information Group, the Secretariat has established close working relations with focal points. This "personalized" approach has been instrumental in building trust among AMIS participants and in creating a sense of ownership of the AMIS initiative. A prominent example to showcase this development is the special event held at Expo-Milan in October 2015 when a number of focal points presented the AMIS outlook for global food markets. In order to ensure that collaboration continues and further deepens despite potentially changing focal points, AMIS needs to be better "institutionalized" within the designated ministries and agencies that are working with the Secretariat.

89. Finally, the calmer market situation that can currently be observed might also entail some challenges regarding the future of AMIS; i.e. is AMIS needed when prices are low? In this regard organizing an annual Outlook Conference might be one approach to ensure the relevance and visibility of the initiative.

