Enhancing Data for Complex Agricultural Establishments
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Data Requirements for Policy and Private Decision-Making: Discussion[1]

Four presentations were made that covered a broad range of experiences of researchers, civil servants and international organisations. Examples were given of a large variety of policy issues and the type of information needed to analyse these, including: the need to estimate the costs of animal welfare regulations or crop price elasticities taking into account crop rotations (Sumner); tracking the changing structure of farm households and increasing complexity of very small and very large farms (Freshwater & Culver); economic and environmental indicators of farm performance (Poppe); and the integrated macro and micro-level indicators developed by the United Nations (Keita) needed to monitor and evaluate programmes in developing countries. All speakers outlined the importance of regular monitoring and evaluation of policies, and the need to improve data and information.

This discussion will focus on four main points: 1) changing priorities in data demand; 2) cost of information; 3) increasing complexity; and 4) distributional issues.

1. Changing data demand

As outlined by Keita, there are short- and long-term data needs. There are also changes in priorities that reflect the emergence of new and growing issues, such as the impact of agriculture on the environment in the 1990s, or which respond to *ad hoc* events such as food safety concerns in the late 1990s. It is a challenge for statisticians to adapt their statistical systems, in particular to short-term or cyclical needs.

As agri-environmental and rural development policies gained in importance in recent decades, more complex information has been needed to evaluate them. These new types of information that are at once more local, complex, multidisciplinary and integrated. Rural development and income issues, for example, require information that goes beyond the agricultural sector, that is available at a disaggregated level, and which is comparable across sectors and areas (e.g. agriculture versus non agriculture, rural versus urban). This requires significant resources, sometimes to the detriment of basic agricultural market information, which was generally considered to be less important in view of the gradual reduction of government intervention in commodity markets.

Recent price movements, however, have prompted renewed interest for market information to analyse price formation and transmission along the food chain, and to identify the causes and consequences of price variability in agriculture. At the G20 meeting on food price volatility and

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agriculture, held on 22-23 June in Paris, Agriculture ministers "*decided to launch an Agricultural Market Information System (AMIS) in order to enhance the quality, reliability, accuracy, timeliness and comparability of food market outlook information, through the strengthening the collaboration and dialogue among main producing, exporting and importing countries, commercial enterprises and international organisations.*"[2] Recognising the importance of modern tools to improve information, they also decided to launch, via the Group on Earth Observation, an international voluntary network of agricultural production monitoring based on geoinformation.[3]

Agricultural productivity growth is also back on the agenda following recent agricultural commodity market disturbances and related concerns over food security. There are many measures of agricultural productivity growth and estimation methods. Agricultural productivity needs to be monitored more systematically and measured on a comparable basis in order to assess situations and explain developments. Finally, new global challenges, such as climate change and food security, are associated with growing uncertainty about measurement, causes and consequences which led to the development of a number of foresight (longer-term projection) exercises; these, in turn, require considerable, multidisciplinary information on the situation being analysed, the availability of robust analytical tools, and specialised expertise.[4]

2. Cost consideration

Expectations about who should supply information, at what cost, and from which source, have also evolved. Basic agricultural information for market and policy analysis is generally considered a public good that governments provide for free (on the internet) or at a low cost (in statistical books). Generally, access restrictions are based not on costs but on technical or confidentiality considerations; for example, in the case of individual data. However, cost considerations cover a wider area. Farmers, companies or institutions incur a cost when they deliver data and statistical offices when they collect and process data. The policy implementation process generates a wealth of administrative information which could feed into official statistics, as explained by Poppe, but which is often kept separate. Similarly, the private sector has a lot of information which they sell or keep for a limited group of clients. Another, more obvious, example is information on retail consumption, which has a high market value. A grey area example are market forecasts; while general commodity market projections are usually provided by governments or international organisations, there is a private demand for specific analysis from the private sector and it is not always clear where to draw the line. The cases shown by Sumner are interesting as they concern research projects related to policy issues for which additional information needs to be collected at a cost identified in the project's budget. Who is the owner of this new information: the original provider, the researcher, or the institution funding the project?

With increasing data needs and budget pressure, reducing the cost of collecting, processing and transmitting information is crucial. Speakers mentioned solutions that involve information

2. agriculture.gouv.fr/IMG/pdf/2011-06-23_-_Action_Plan_-_VFinale.pdf

3. Georeferencing is also seen as a promising tool to analyse agri-environmental issues, which are often local and dependant on the geography.

4. See, for example ,the *Foresight Project on Global Food and Farming Futures* published in the United Kingdom: www.bis.gov.uk/assets/bispartners/foresight/docs/food-and-farming/science/11-584-sr46-funding-agricultural-and-food-security-research

and communication technologies (ICT) and the merging of various sources, including data generated by policy implementation and evaluation, by research and by institutions active in the agro-food sector, such as banks, input suppliers, cooperatives and other downstream industries.

The cost of collecting data for policy analysis and evaluation should be considered within the whole policy implementation process and compared to the budgetary and economic costs of providing market support or direct payments to farmers. As noted by Freshwater and others, the cost of data collection is a tiny share only of payments made to farmers.

3. Increasing complexity

As mentioned above, emerging issues require more complex information gathering, which is often of a multidisciplinary nature. For example, knowledge of production practices, soil quality, water quality and quantity, or sociology is useful to better understand agri-environmental or rural development issues and to design related policies. Aggregate analysis is generally not sufficient and for some issues, such as climate change, local information on soil, water and climate is needed to understand consequences at the global level. Similarly, analytical tools have become more sophisticated, requiring huge databases to manage micro-level and heterogeneous information.

Reliance on science-based information is growing for both policy analysis and for regulatory issues, and policy-makers are expected to make decisions on the basis of research results that are increasingly difficult to interpret. This is why the idea to have brokers explain the foundation and reliability of scientific and research-based information and to help policy makers form a judgement on long term risks in a context of uncertainty is increasingly appealing.

4. Distributional issues

The importance of micro-data was demonstrated by several speakers. We are all convinced of the need to look at the distribution of variables, but it is not easy to convey distributional information in a printed graph. This is all the more difficult when you also want to compare across country, as OECD recently attempted in a report analysing the distribution of support and income in OECD countries.[5] All suggestions for a clearer graphic presentation are welcome.

This workshop focuses on large, complex farms; Freshwater noted that small farms are just as complex as large farms. What do we do with the distribution tails in official statistics? Obviously, very small and very large farms are different in their organisation and behaviour from traditional farms if such concept exists. Should all farms be given the same treatment in official statistics? Should the same agricultural policy apply to small, part-time farms and to large, complex operations? What do they have in common, particularly in terms of income? Should larger farms receive greater or lesser attention? Such farms account for a large share of land use and production, so they have a large impact on the sector but do they need income support? Are they not big enough to manage their own risks? Is the household still the unit of analysis for complex farms? These questions were discussed during the remainder of the meeting.

5. See report prepared in the context of the OECD network for farm level analysis at: http://dx.doi.org/10.1787/5kgch21wkmbx-en