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COORDINATION OF ENVIRONMENT STATISTICS

Invited paper submitted by Statistics Norway

The main purpose of this paper is to give an input to discussion on better coordination of environmental statistics reporting between international bodies.

INTRODUCTION

1. Environmental statistics and accounts as a professional area have developed a great deal during the last ten to fifteen years. The focus of environmental statistics has also changed from being primarily concerned with natural resources, such as energy, forests and fish, to include newer issues that gained political attention, especially climate change and pollution in general. The main focus of environmental statistics today is to serve politicians with statistics on man's pressure on nature, such as air emissions, wastewater and solid waste, but also environmental state, such as water quality. Environmental protection expenditure and environmental accounts have also been established as statistical fields. Areas that need further development include, for example, establishing relevant environmental indicators based on statistics covering chemicals, land use, fresh water resources and quality, and biodiversity. Although there are still areas that need to be developed, environmental statistics has become more established within the statistical portfolios of national countries and international bodies.

2. Part of the process of becoming a more established statistical area has been the increase in the number of national and international environmental conventions, regulations and directives. These legal claims have contributed in many positive ways to speed up the process of establishing environmental statistics. The legitimacy of environmental statistics and the need for this type of information is no longer a major issue. In addition, however, these legal

foundations have created institutional requirements. The establishment of new agencies, for example, the European Environmental Agency (EEA), and new reporting regimes, such as the annual UNFCCC and LRTAP air emissions reporting, are all part of the institutional development that has taken place as a response to these increased international environmental legal requirements.

3. Although progress has been made in recent latest years, there is still a potential for better coordination. Maybe the nature of environment statistics and accounts is such that coordination becomes a more complex task than for other areas of cooperation: Environment itself deals with both life processes of all creatures, the effect of the human presence and the effect on the human being itself. The complexity of the area, leading to difficulties in setting limits for what is inside the environmental sphere and what is outside, as well as which subjects are suitable for statistics and which are more scientific areas to be developed, leads to the establishment of a lot of specialized agencies to further investigate certain niches in this field. The area calls for overview and strategic consideration and the sharing of response areas for different agencies.

4. International bodies should take a lead in such coordination activities. This could have a great impact on coordination also at national level, and can encourage the different national agencies to cooperate in a more harmonized way.

5. The issue of strategic cooperation at international level was discussed at the 50th plenary session of CES two years ago, in a paper submitted by Statistics Norway. However, such important topics are multi-faceted, and it is necessary to keep such issues continuously under review and discussion.

IMPORTANT CHANGES INFLUENCING ENVIRONMENTAL STATISTICS

6. There are two major changes in the European context that influence environmental statistics. The first is the increase in the legal basis for environmental reporting, which is illustrated by the expanded coverage of the SBS regulation (Structural Business Statistics), the new waste directive, the water directive and also the structural indicators from the Lisbon declaration. The second major factor is that more countries are coming under the reporting requirements of these regulations and directives since the EU legal framework has expanded to include 25 countries plus the 4 EFTA countries.

7. While these legal and institutional expansions have helped to establish the legitimacy of environmental statistics, the overall coordination regarding the responsibilities of the various institutions could still be better. This situation has resulted in a somewhat confused picture when it comes to data collection and reporting to the respective responsible institutions. Partly due to the confusion regarding the share of responsibilities among international organizations, the national situation often also becomes disjointed and difficult to coordinate. Because the regulations and associated reporting are not fully coordinated and are the responsibilities of different bodies at the EU level, this results in different institutions at the national level ending up with a number of actors responsible for enforcement and reporting for the same topics. Sometimes it is the responsibility of the national statistical institutes and, in other cases, it can be the Ministries of Environment or the pollution control authorities that are responsible for collecting data, statistical development and reporting.

8. With all the different required reporting regimes, it is difficult to establish a well-coordinated statistical system that provides the required information according to the required reporting timeframes. A lack of agreed definitions on important environmental issues makes it even more complicated for the national actors. It has also become more difficult for the national statistical institutes during recent years to keep an overview of what needs to be reported internationally, and to whom. However, the ReportNET of the European Environmental Agency (<http://rod.eionet.eu.int/index.html>) represents a substantial improvement in this respect.

9. In addition to the difficulties of developing rational, coordinated statistical systems, the current situation also contributes to double reporting and, in some cases, duplication of work. When reporting regimes are evaluated, the legally based required reporting naturally takes priority over reporting based on voluntary or “gentlemen’s agreements.” At the national level, voluntary reporting has lower priority over required reporting and could even be totally cut out in times of tight budgets.

10. We have experienced that the trend towards reporting only to legally based, required reporting regimes may threaten environmental statistics at the international level. Until recently the major international environmental statistics reporting mechanism was comprised of the joint questionnaires administered by the OECD and EUROSTAT. The focus of environmental statistics for national statistical institutions was primarily for national needs and for reporting internationally to the joint questionnaire. Slowly, this international reporting is being superseded by required reporting regimes like the Waste Regulation and the inevitable consequences of budget reductions.

11. This may not always be a negative development. A good example of rationalization can be seen in regard to air emissions reporting. In this case, air emissions are no longer reported to EUROSTAT or to the joint questionnaire. Air emissions are only reported through the other international and European reporting systems (UNFCCC and CLRTAP). Only the NAMEA air emissions tables are reported separately to EUROSTAT since this reporting is voluntary and is according to different definitions.

12. This situation did not occur overnight. There was a great deal of effort put into the coordination of the reporting for air emissions. So far, this is not the case for waste or for water and wastewater, where the efforts have been put more into defining and delimiting the content of the reporting regime rather than with regards to coordination. Better institutional coordination is required in order to make the reporting to these legal directives more rational.

THE CURRENT SITUATION

13. If we take a look at the reporting situation on solid waste, from the EEA Reporting Obligation Database (ROD) we can identify the following reporting obligations by the EU:

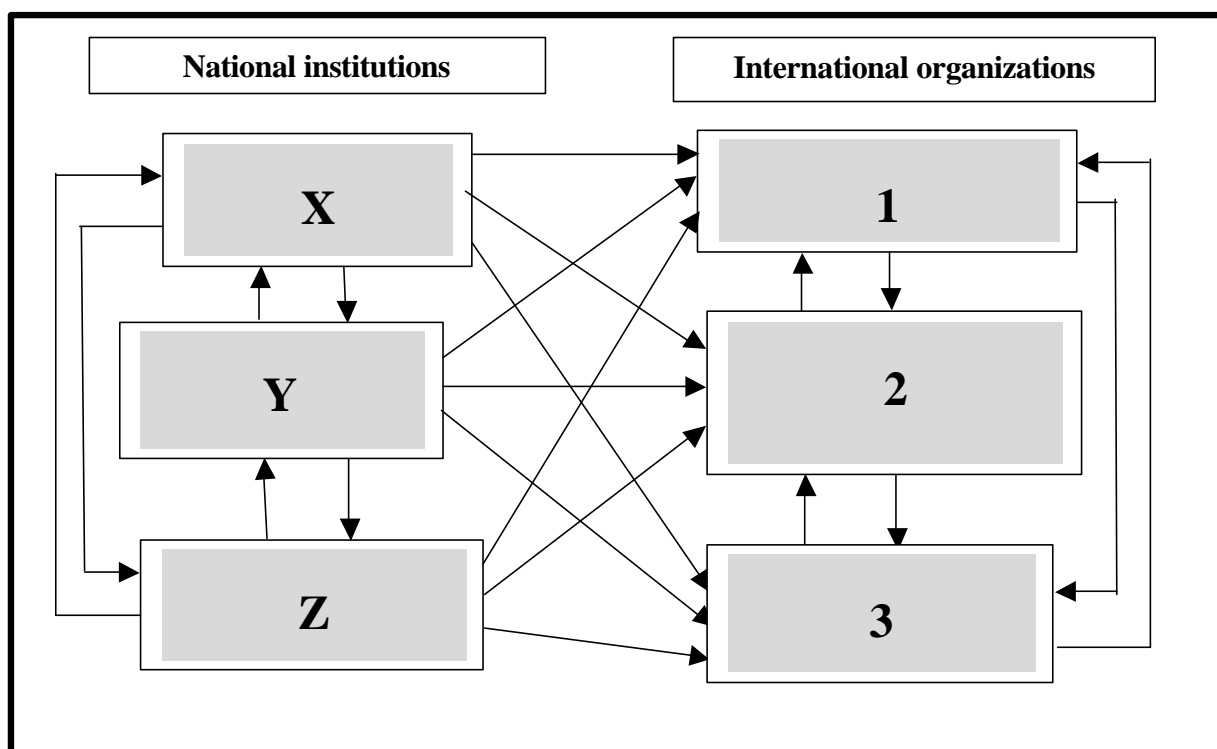
- 17 data reporting obligations to the European Commission (DG Env.);
- 2 reporting obligations to the European Environmental Agency (EEA);
- 0 reporting obligations to Eurostat, so far. But the one adopted; the Waste Regulation, will have the basic year in 2004, and will be overlapping some of the others.

14. In Norway, there are two national institutions with reporting obligations concerning waste; the Norwegian Pollution Control Authority and Statistics Norway, and a variety of data producers. Only the Waste Regulation will be the sole responsibility of Statistics Norway, so apparently, compared to all other reporting obligation systems, Statistics Norway should play a minor role in the overall reporting system to the EU. But the Waste Regulation, which is the newest of them all, contains the greatest number of reporting cells. Another problem is that there are overlapping areas of reporting between the various waste directives.

15. The situation could have led to extensive duplication of work between Statistics Norway and the Norwegian Pollution Control Authority, but fortunately there exists a strategic and practical understanding between these two institutions so that resources are not being wasted.

16. In other areas of reporting, the situation might not be as clear. Principally, we have a reporting situation that could be illustrated this way:

Figure 1: Simplified picture of today's reporting organization between national and international institutions



17. The sketch illustrates only the possible data flow **from** national institutions **to** the international organizations and within the national offices. The structure of reporting back

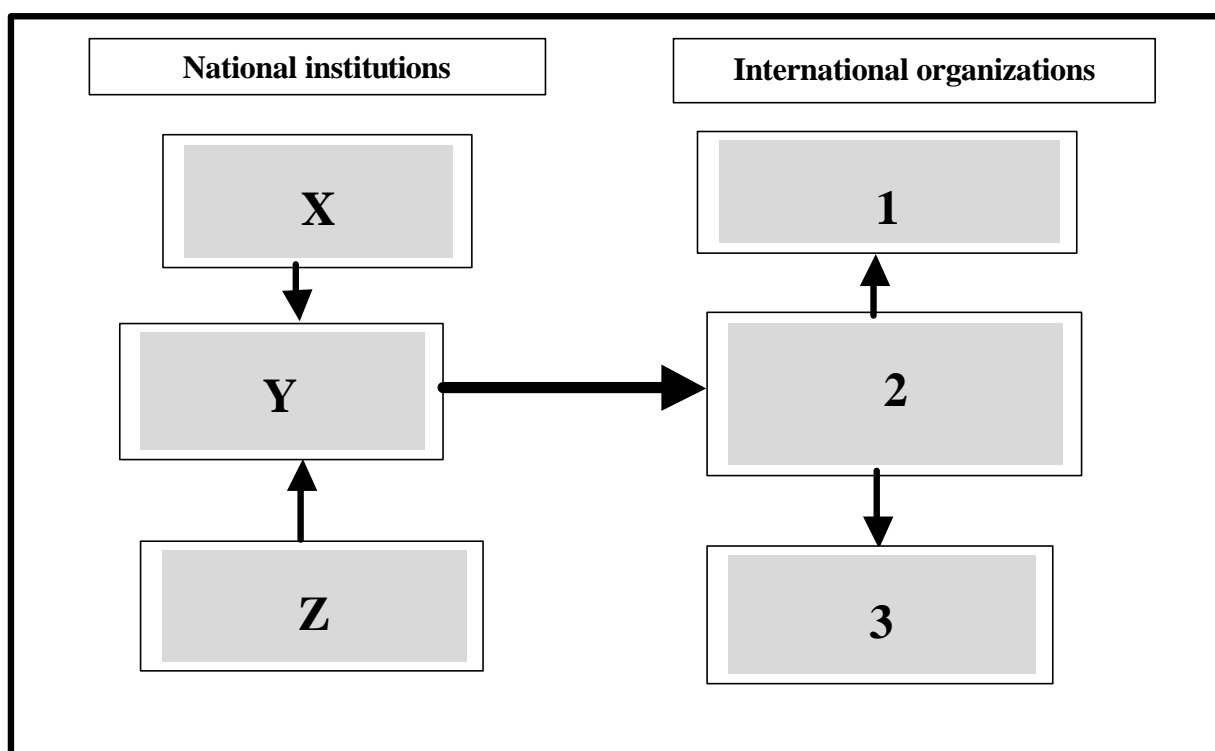
from the international actors is not sketched, in order to not complicate an already messy situation.

18. A typical side-effect of this at the national level is that a number of institutions receive reporting obligations concerning the same topic, leading to duplication of work, indistinct responsibility and inefficient use of resources.

A HIGHWAY TO HEAVEN?

19. The international statistical system has for several years been working with streamlining the statistical reporting system. Still, we have a way to go before we have reached the total coordination of international reporting.

Figure 2: Simplified sketch on an alternative reporting organization between national and international institutions



20. This structure presupposes that data from the central national and international actors flow immediately to the various responsible agencies. The extra role of the institutions in the central line is to establish a reporting structure covering various definitions and purposes, avoiding the possibilities of double reporting, and giving proposals on how data gaps (which still might occur in the principal model) should be filled.

21. The central international unit could also serve as a central database for reporting back to countries. However, analogous statistics from different international agencies should not be considered a problem, rather an assurance that data are easy available when sought after. Let it

be stated quite clearly; it is neither necessary nor desirable that the central data administrator also has the role of managing the policy in the field.

22. At our national level, a model like this has been established for the data reporting between local administrations and the state of Norway, in the so-called KOSTRA-reporting scheme. 434 municipalities and 18 county administrations report electronically to Statistics Norway, who then provides data to the various ministries and to the public.

WHAT TO DO UNTIL "THE HIGHWAY TO HEAVEN" IS DEVELOPED?

23. Until this institutional coordination and rationalization can be achieved, the reporting to the joint questionnaire needs to be continued and improved. It is important to remember that other countries outside the European system also report to the OECD using the joint questionnaire as the main reporting instrument, and that these data are used in a large number of international publications and analyses. The United Nations also uses the data reported through this joint questionnaire reporting regime. There are also cases where the information requested in the joint questionnaire is more than is required under the legal reporting requirements.

24. To help improve the reporting from European countries, it would be advisable that direct links between all the different required reporting systems be made to the joint questionnaire. Explicit connections between the variables that are reported to the various European systems should be clearly described for the European countries, so that data developed for the legal reporting to the EU can also be used in the voluntary reporting.

25. Ideally, the legally based reported data should be obtained from the various European databases and entered into the joint questionnaire as pre-filled data which countries could simply check. For a number of the joint questionnaires this is starting to be done. One example is the recent changes to the environmental protection expenditure and revenues (EPER) joint questionnaire, which has been modified so that countries can report their data from the SBS regulation more easily.

26. Originally, EUROSTAT obtained all environmental data through direct reporting from the joint questionnaire. Now, however, this situation has changed. Environmental reporting is not the sole domain of the division for Environment and Sustainable Development (E5 formerly F3) since reporting to the SBS regulation is the responsibility of the division for Business (D3). This means that the databases managed by the division for Business and those managed by the division for Environment need to be coordinated.

CHECKING AND ACCESS TO STATISTICS

27. Another problem that is developing, perhaps primarily as a by-product of the Internet, is the proliferation of databases that contain environmental statistics. This is a problem both nationally and internationally. Checking the accuracy of all the data found in all of the various databases is a Herculean task. It is nearly impossible to keep track of and to check that all the data is correct in all the various databases. In principle, it should not be a task for national statistical offices. But it is very discouraging when the data used in publications and analyses is not recognizable by the national institutions when so much time is taken to provide correct data so, as national statisticians, we feel that we have to take some responsibility to check that our

figures are reproduced correctly. Elsewhere, this problem also threatens the credibility of the data sources that contribute to the various databases.

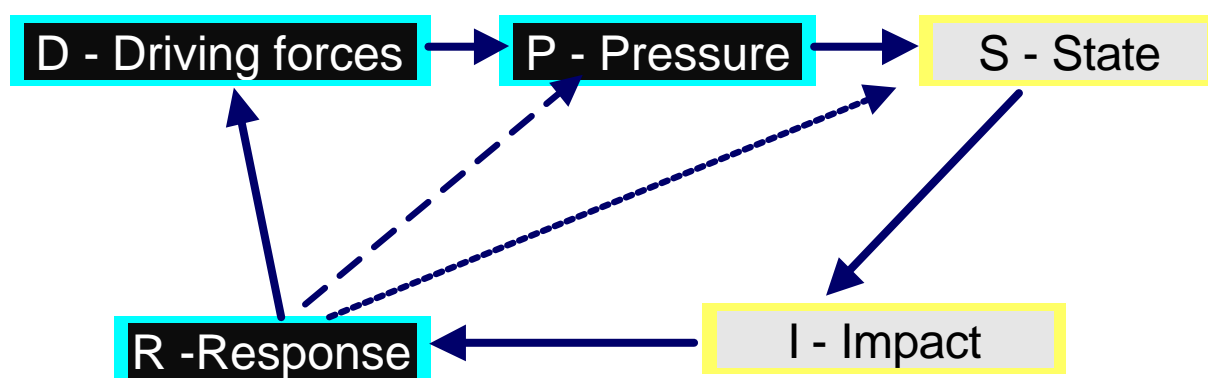
28. In addition, we might face the problem of obtaining access to international databases. We wonder what conditions render necessary bureaucratic routines to obtain a personal password to, for instance, New Cronos. International databases should provide a service to the public, but not behind a fence that has to be climbed first.

29. Better reporting routines that include quality checks need to be improved. International organizations need to take a leading role in solving these problems.

THE NATURE OF ENVIRONMENT STATISTICS...

30. Environment statistics deals with the interactions between man and nature. A common model for structuring information in this area is the so-called DPSIR-chain, which is illustrated below:

Figure 3: The principles of the DPSIR chain



31. Driving forces (which may be, for instance, population or economic growth) lead to pressure on the environment (for instance, emissions to air). This again will lead to a change in the environmental state (i.e. acid rain, lower pH in lakes), which in turn will have a certain impact on nature's life (death of fish). This in turn may lead to different kinds of societal responses, like restrictions on the sulphur content in oil products or tax on oil, which in turn might have impacts on the driving forces (or the pressure directly).

32. There are discussions on the practical value of this theoretical model, and there are variants of this scheme in different national and international organizations. However, basically there is an agreement on the usefulness of DPSIR-like frameworks structuring statistics and also indicators for the interactions between man and nature. The P-, S- and partly R-dimensions are commonly considered as the core of environmental statistics.

...AND POSSIBLE CONSEQUENCES FOR ORGANIZATIONAL MATTERS

33. More important than discussing variants of the framework is to see how the different dimensions, especially P, and S, are covered by statistics, which actors take responsibility for the information load of the different dimensions, and the links between the dimensions and the policy.

34. Environmental statisticians in the national statistical agencies, as well as the same professionals in the international organizations, normally deal with the P- and eventually the R-dimensions (dark background), while the S- (and I-) dimension often seem to be of lower priority, farther away from policy decisions and therefore not treated with the same thoroughness as the other dimensions. Hence, there is a tendency for too many of the organizations working on environment to focus on issues in the P-dimension. As a result, we are in danger of duplication of work, while topics related to environmental state are given less attention.

35. An example of these considerations is related to the share of work between Eurostat and the European Environment Agency (EEA): both are EU-organizations. There exists a Memorandum of Understanding between the two on the share of work. Nevertheless, both EEA and Eurostat collect data on, for instance, waste production and treatment, which belongs to the P- and R-dimension in the model above.

36. On the other hand, international and reliable statistics related to the evolution of biodiversity, which belongs to the state dimension, is poorly developed. The field has apparently been a field of international priority for years. Some pressure indicators are identified; however, the link between pressure and state in this field is a matter of discussion, especially as reliable state indicators are not well-developed. And so far, no international organization seems to have taken a strong lead role for developing statistics in this area, while on traditional statistical areas like waste and water there are several responsible actors using much energy to define their role in the international statistical system.

37. The natural share of work between environmental institutions and statistical institutions is that statistical institutions should carefully take the response for the D-, P- and R-dimensions, while environmental institutions should have the response for the S- and I-dimension. A Memorandum of Understanding between the actors, taking this principle into account, could lead to better cooperation, less tension and less confusion among actors on the international as well as the national scene.

CAREFUL CONCLUSIONS

38. Representing a small nation on the periphery of Europe, I feel it is necessary to be very careful and humble when trying to conclude on international organizational matters. International organizations serve different purposes, and they are acting on behalf of different member states, although most developed nations are members of a number of international organizations. However, in spite of progress in terms of cooperation, there is an overlap in areas of responsibility, perhaps especially in the area of environment, as this area is multi-dimensional and still under development as a statistical area.

39. From a national perspective, the existing international reporting system leads to

duplication of work between international organizations, but also at a national level, and represents an obstacle to better cooperation between national institutions. It is therefore essential to continue the efforts of streamlining data reporting, and make it independent of professional response for a certain issue.

40. A clearer agreement of responsibility between organizations on environmental issues would be of great advantage. Today, there seem to be too many wide “grey areas” between the actors, and these grey areas may cause endless discussion and confusion between actors. The overlap between international institutions on the D-, P- and R-dimensions and the lack of institutions concentrating their focus on the S- and I-dimension is an important reason for the existence still of overlapping reporting channels and thereby also of confusion of response on the national scene.

41. However, it would not be very wise to make the borderlines between the response areas too sharp. To cooperate on the international level, organizations must be able to handle common issues, otherwise there cannot be real cooperation on certain topics. It is said that creativity has the most fertile conditions where professionals have a meeting place with just a little space around them. It is a challenge to create such meeting places and still obtain agreement on institutional response areas.

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