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BIODIVERSITY POLICY RESPONSE INDICATORS TO CONTRIBUTE TO MONITORING PROGRESS TOWARDS AICHI TARGETS 3 AND 20

Note by the Executive Secretary

1.   The Executive Secretary is circulating herewith an information document entitled "Biodiversity Policy Response Indicators to contribute to monitoring progress towards Aichi Target 3 (on incentives) and Target 20 (on resource mobilisation)". The document was submitted by the Organisation for Economic Co-operation and Development (OECD), for the information of participants in the fifth meeting of the Ad Hoc Open-ended Working Group on Review of Implementation of the Convention.

2.   The document is being circulated in the form and language in which it was provided to the Secretariat.

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*UNEP/CBD/WGRI/5/1.

PRELIMINARY INSIGHTS ON OECD WORK ON

Biodiversity Policy Response Indicators
to contribute to monitoring progress towards Aichi Target 3 (on incentives) and Target 20 (on resource mobilisation)

The Strategic Plan for Biodiversity 2011-2020, and specifically the Aichi Biodiversity Targets, agreed upon at the 10th Conference of the Parties to the Convention on Biological Diversity (CBD) in Nagoya, Japan (2010), specify 20 Targets that Parties should use to develop their national targets. In 2011, Parties also agreed on the need for indicators to monitor progress towards the implementation of the Strategic Plan for Biodiversity 2011-2020.

While some progress has been made towards reviewing and refining existing, and developing new indicators for the 2011-2020 Aichi Biodiversity Targets, much work still remains. A few of the targets, such as Target 3 (on incentives) and 20 (on resource mobilisation), still lack global indicators. Moreover, the indicative indicators developed for Target 3are still fairly broad (see Box 1). Given the time lag involved in identifying, agreeing, and subsequently collecting and reporting on data for environmental indicators, the 2020 deadline by which these biodiversity targets are to be met is not far away. Significant work is therefore needed in this area if meaningful indicators are to be developed, and the data for these indicators collected, in time to assess progress by 2020.

The OECD is currently undertaking work that aims to inform on the types of biodiversity response indicators that may be suitable for monitoring progress towards the implementation of the 2011-2020 Aichi Biodiversity Targets. More specifically, the OECD is examining possible relevant policy response indicators that could be used to monitor progress towards the achievement of Target 3 and Target 20.

Response indicators refer to actions that are being undertaken to help address the pressures on and state of the environment, and show the extent to which society responds to environmental concerns through environmental and economic policies. While response indicators can refer to measures undertaken by governments, firms, and households, only policy response measures on behalf of governments are currently being examined in this OECD work. Policy response indicators for biodiversity are important because they (i) allow monitoring and evaluation of biodiversity policy development, including the extent of policy reform achieved by countries over time, and (ii) provide a common base for policy dialogue by providing a consistent and comparable method to evaluate the nature and incidence of biodiversity-relevant policies.

Box 1. Aichi Targets 3 and 20 and the respective headline and operational indicators

Target 3: By 2020, at the latest, incentives, including subsidies, harmful to biodiversity are eliminated, phased out or reformed in order to minimize or avoid negative impacts, and positive incentives for the conservation and sustainable use of biodiversity are developed and applied, consistent and in harmony with the Convention and other relevant international obligations, taking into account national socio-economic conditions.	
Headline	Trends in the integration of biodiversity, ecosystem services, and benefits sharing into planning, policy formulation and implementation and incentives.
Operational	• Trends in the number and value of incentives, including subsidies, harmful to biodiversity, removed, reformed or phased out • Trends in identification, assessment and establishment and strengthening of incentives that reward positive contribution to biodiversity and ecosystem services and penalize adverse impacts
Target 20: By 2020, at the latest, the mobilization of financial resources for effectively implementing the Strategic Plan for Biodiversity 2011-2020 from all sources, and in accordance with the consolidated and agreed process in the Strategy for Resource Mobilisation should increase substantially from the current levels. This target will be subject to changes contingent to resource needs assessments to be developed and reported by Parties.	
Headline	Trends in mobilisation of financial resources

Operational	(1) Aggregated financial flows, in the amount and where relevant percentage, of biodiversity-related funding, per annum, for achieving the Convention's three objectives, in a manner that avoids double counting, both in total and in, *inter alia*, the following categories:
	
	    (a) Official Development Assistance (ODA);
	    (b) Domestic budgets at all levels;
	    (c) Private sector;
	    (d) Non-governmental organizations, foundations, and academia;
	    (e) International financial institutions;
	    (f) United Nations organizations, funds and programmes;
	    (g) Non-ODA public funding;
	    (h) South-South cooperation initiatives;
	    (i) Technical cooperation.
	
	(see Decision X/3 of COP-10 for the full list of operational indicators)

Questions this on-going OECD work aims to address are:

- What are the ultimate objectives of Aichi Biodiversity Target 3 and 20?
- What are the data implications regarding indicator needs to monitor progress towards these Targets?
- To what extent can existing relevant (OECD) datasets be used for this purpose?
- What types of modifications or adjustments to methodology and data collection may be useful (and feasible) to better meet this purpose?

This report therefore examines the following OECD databases:

- OECD/EEA database on instruments used for Environmental Policy and Natural Resources Management - (Target 3)
- OECD Agriculture Producer and Consumer Support Estimates –(Target 3)
- OECD Government Financial Transfers to Fisheries – (Target 3)
- OECD DAC Creditor Reporting System and Rio markers– (Target 20)
- OECD and Eurostat Environmental Protection Expenditures and Revenue – (Target 20)

Possible data and indicators to monitor progress towards Aichi Target 3

Incentives, including subsides, harmful to biodiversity can emanate from economic, legal and institutional policies designed for other objectives yet result in unsustainable or damaging behaviour. Positive incentives for the conservation and sustainable use of biodiversity include regulatory approaches, economic instruments, and information instruments. The focus of this analysis is on *economic instruments* that produce both positive and harmful effects on the conservation and sustainable use of biodiversity. In this context, three OECD databases are being examined to identify possible indicators to monitor both positive and harmful incentives for biodiversity. Implicitly, this work also aims to help address the question of how to categorise incentives as potentially harmful, positive, neutral or undetermined. While the development of quantitative indicators are an important first step, it may be helpful to also assess qualitatively the impacts of these incentives in their national context.

I.   The OECD/EEA database on instruments used for Environmental Policy and Natural Resources Management

Description of the dataset

The OECD collaborates with the European Environment Agency (EEA) to collect information on environmental policy instruments. Data collection began in 1998 and currently includes data from 53 countries[1]. The database is updated annually, though some of the records are older. Data is collected at the instrument level on:

- environmentally related taxes, fees and charges
- tradable permit systems
- deposit refund systems
- voluntary approaches
- environmentally motivated subsidies

Economic instruments are further classified according to the following environmental domains in which the policy is directed:

- water pollution
- air pollution
- climate change
- land contamination
- waste management
- natural resources management
- noise
- energy efficiency
- transport
- land management

While there is no explicit environmental domain for biodiversity *per se*, several of the existing domains provide relevant information and could possibly be re-adjusted as such. The most biodiversity-relevant environmental domain is that labelled natural resource management and includes information on environmentally-motivated subsidies, charges and fees and taxes. Others categories of environmental domains are also relevant to biodiversity, such as water pollution and land management. Certain environmental domains are likely to exert a more direct influence on biodiversity than others. For instance, incentive measures for natural resource management, land management, and water pollution have clear benefits for biodiversity. Instruments in other environmental domains may have less direct impacts on biodiversity, but are still relevant. Examples include instruments for climate change, air pollution, and land

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[1] Tax rate information is available from 2000 and tax revenue information from 1994. For all other information, the data begins in 2005.

contamination policies. Yet other domains, such as waste management, could have direct or indirect impacts on biodiversity depending on the policy objective and instrument used.

Possible indicators

This database is a good candidate for further investigation of the development of an indicator for positive incentives for biodiversity. A future consideration is to re-adjust the database to incorporate biodiversity as its own environmental domain, and to introduce explicit labels for instrument categories for payments for ecosystem services and biodiversity offsets which are directly related to biodiversity. The types of indicators that could then be extracted from this database to help monitor progress in the implementation of Aichi Biodiversity Target 3 (in the context of positive incentives) include:

(1) The number of countries implementing positive incentives (by type) for biodiversity over time.

(2) The number of positive incentives for biodiversity by instrument type implemented over time.

(3) The mix of different types of positive incentives for biodiversity implemented over time.

(4) The number of positive incentives by sector (fish, forestry, agri-biodiversity, etc.) over time.

(5) The revenue generated by positive incentives for biodiversity (as relevant) over time.[2]

(6) The number of hectares under positive incentive programmes (by country, by instrument, in total, etc.).

II. OECD Agriculture Producer and Consumer Support Estimates

Agriculture provides many benefits to the environment and plays an important role in contributing ecosystems services, including carbon sequestration, nutrient cycling, food production, and habitat for wildlife. Some agricultural practices, however, produce harmful effects on the environment, including air and water pollution, soil degradation, and land fragmentation which result in the loss of biodiversity. Understanding the implications of agricultural practices on biodiversity requires looking both within the agro-ecosystem and other terrestrial and aquatic ecosystems affected by farming practices.

Description of dataset

OECD countries transfer approximately USD 250 billion in support to the agricultural sector every year. The OECD uses a comprehensive system for measuring and classifying support to agriculture – the Producer and Consumer Support Estimates (PSE and CSE) and related indicators. The indicators were mandated by OECD Ministers in 1987 and have since been calculated for OECD and an increasing number of non-OECD countries. Currently, the dataset includes 47 countries with annual estimates covering the period from 1986 to present[3].

Policy measures supporting producers are classified according to the implementation criteria. For a given policy measure, the implementation criteria are defined as the conditions under which the associated transfers are provided to farmers, or the conditions of eligibility for the payment. Policy measures are thus

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[2] This information is also relevant for the Strategy for Resource Mobilization: Indicator 14 is intended to measure the number of initiatives, and respective amounts of new and innovative financial mechanisms, which consider intrinsic values and all other values of biodiversity.

[3] Data on emerging economies have been collected since 1995 with the exception of Indonesia and Kazakhstan, which were added in 2013.

classified by (i) the basis upon which support is provided (a unit of output, an animal head, a land unit, etc.); (ii) whether support is based on current or non-current production parameters; (iii) whether production is required to receive support or not; (iv) whether the payment rate is fixed or variable; and (v) whether the policy transfer is specific or variable, among other measures.

These policy characteristics affect producer behaviour, and distinguishing policies according to implementation criteria enables further analysis of policy impacts on production, trade, income, the environment, etc., which in turn have direct and indirect effects on biodiversity. The current PSE classifications are as follows:

A. Support based on commodity output (Market Price Support and payments based on output)

B. Payments based on input use

C. Payments based on current A/An/R/I[4], production required

D. Payments based on non-current A/AN/R/I, production required

E. Payments based on non-current A/AN/R/I, production not required

F. Payments based on non-commodity criteria

In addition to the above PSE classification scheme, a set of labels may also be applied to certain policy characteristics relating to the provision of support. One label of note identifies payments that are conditional on environmental input constraints, which require farmers to voluntarily adhere to a set of production practices in order to obtain the payment. These payments support activities such as, i) organic crop farming, ii) managing grasslands or maintaining environmentally sensitive areas, iii) converting land to wetlands and ponds, and iii) maintaining wildlife habitats, which would all have a positive impact on biodiversity.
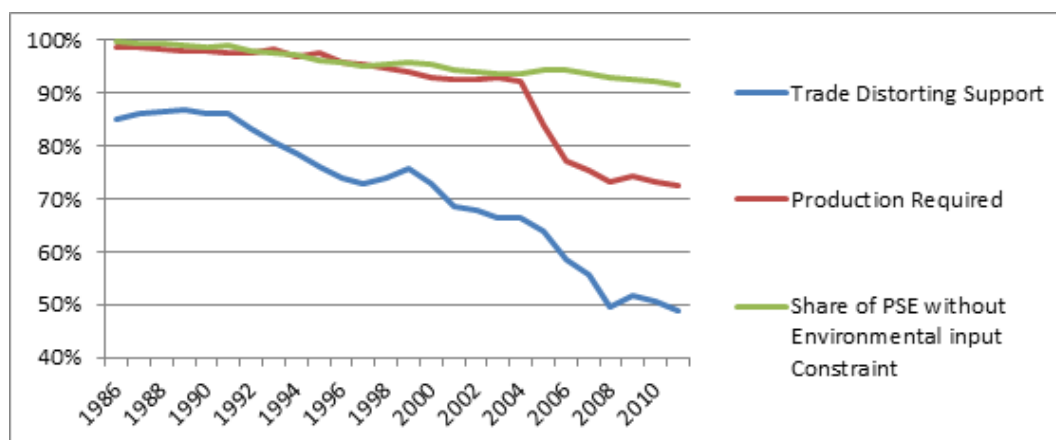
Possible indicators

This database could be used to develop indicators that measures progress towards i) the elimination, phasing out and reform of support measures to agricultural producers that are harmful to biodiversity, and ii) support measures that provide positive incentives for the conservation and sustainable use of biodiversity in agricultural ecosystems. The types of indicators that could be constructed from this database are:

(1) Proportion and amount of PSE support not tied to production

(2) Proportion and amount of PSE support to most harmful subsidies (Market Price Support + Commodity Output +Non-constrained variable input use)

(3) Proportion and amount of PSE with environmental input constraints

(4) Payments based on non-commodity criteria

As can be seen from the figure below, support to the agriculture sector with harmful effects on biodiversity have been decreasing over time.

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[4] The letters stand for Area (A), Animal Numbers (AN), Receipts (R) or Income (I).

Figure 1. Trends in PSE composition to OECD Members (1986 - 2010)

III.   OECD Government Financial Transfers to Fisheries

Marine fisheries are common pool resources with complex incentive structures. Subsidies to the fisheries sector in the form of direct payments, such as income support, and cost reducing transfers, such as subsidized loans for vessels and equipment, can alter the incentive structure to increase capacity, defined as the total amount of fish that can be harvested over a period of time. Increasing capacity can result in larger and more powerful vessels, more sophisticated fishing gear, and other effort inputs such as time spent at sea and human labour. The full effect of these transfers on biodiversity, however, depends on the status of the fishery and how effectively management and enforcement efforts can constrain the incentive to expand fishing efforts. Therefore, constructing indicators from financial support measures alone may not be sufficient, but is an essential step toward monitoring incentive reform in the fisheries sector.

Description of the dataset

The fisheries sector in OECD countries receives approximately USD 6.4 billion a year in transfers from the government. The OECD collects and disseminates data concerning Government Financial Transfers (GFT) to fisheries. GFTs are indicators of financial support paid to the fisheries sector by government and are classified under one of three broad headings:

A. Direct payments to fishers: primarily directed at increasing the income of fishers
B. Cost reducing transfer: aimed at reducing the costs of fixed capital and variable inputs
C. General services: transfers not necessarily received directly by fishers, but which nevertheless reduce the costs faced by fishers (includes management, research and enforcement services, as well as the provision of infrastructure)

Possible indicators

The current structure of the GFT dataset does not allow for an exact assessment of changes in the composition of support away from biodiversity harmful measures and towards biodiversity-friendly measures. It is possible, however, to construct an indicator from the current GFT database that monitors the intensity of government support measures to the fisheries sector that are anticipated to have a negative impact on biodiversity, caveating that without information on a) the state of the fish stock, b) fishing methods employed, c) management regimes and d) effective enforcement of management regimes, the magnitude of the impact is less certain. One indicator that could be constructed from the current database is:

(1): Proportion and amount of GFTs with negative impacts on biodiversity (grants and subsidized loans for vessel construction, modernization and equipment, income support and unemployment insurance, interest subsidies, fuel tax exemptions, insurance rebates and subsidies, and income tax rebates for fishers and unpaid social contributions).

Similar to the way support is classified in the agricultural sector, another possible indicator that could be developed would be to introduce a labelling scheme to identify which forms of support are provided with an environmental input constraint, such as support measures intended to encourage more sustainable and environmentally-friendly fishing practices. For instance, support for the purchase or upgrade of reduced bycatch fishing gear and technology may benefit marine biodiversity. Support to research for more environmentally-friendly fishing practices, such as gear and technology, will also benefit marine biodiversity. Labels could be applied to each classification to determine if government support is correcting for a market failure that otherwise would not be invested in by private industry. An indicator could then be constructed that would measure:

(2): Proportion and amount of GFTs with environmental input constraint

Possible data and indicators to monitor progress towards Aichi Target 20 on resource mobilisation

Parties to the CBD committed to substantially increase resources from all sources in support of the achievement of the Convention's three objectives. The operational indicators for Target 20 were agreed upon and adopted in Decision X/3 of COP-10 to monitor the implementation of the strategy for resource mobilisation. Indicator 1 (see Box 2) is intended to monitor financial flows both in total and in a variety of categories. Data collected by the OECD may be able to contribute to these reporting needs. Note that ideally, in addition to monitoring financial flows, it would also be useful to obtain a better understanding of the effectiveness of the financial flows in achieving the Convention's three objectives.

IV. OECD DAC Creditor Reporting System and Rio markers

Description of the dataset

The OECD Development Assistance Committee's (DAC) Creditor Reporting System (CRS) includes data on international resource flows covering bilateral and multilateral official developmnent assistance (ODA), and other official flows (OOF). Official aid can be distributed in one of three ways; either i) directly to recipient countries through bilateral aid projects, ii) channeled through multilateral institutions through earmarked projects (multi-bi projects), or iii) to multilateral institutions through core contributions. For bilateral ODA by members of the OECD DAC, data is available at activity level. Together with a range of descriptive information on finance flows, the CRS also contains information on the policy objectives of activities through the use of Rio markers, which identify activities targeting the objectives of three Rio conventions (UNFCCC, CBD, and UNCCD). Each activity reported to the CRS is screened and marked against the biodiveristy marker, identifying the extent to which the activity is targeting biodiversity objectives as either a *principal* objective, a *significant* objective or not at all. These policy markers are descriptive rather than quantitative, allowing for an approximate quantification representing an "estimate" or "upper bound" of biodiversity-related aid.

The DAC statistical framework is based on standardised definitions, rules, classifications and bases of measurement. These methodologies for financial data collection and reporting could serve as a point of reference towards more consistent measurement methodologies, and could be built on for measuring and monitoring biodiversity finance.

Possible indicators

Originally Rio markers were designed to help OECD DAC members in their preparation of National Reports to the CBD, through measuring official development finance targeting the objectives of the Rio Conventions. In recent years however, new financial commitments on behalf of developed country Parties have emerged together with concerns regarding the limitations in the direct use of Rio marker data for reporting against quantified finance goals - given such data may provide only an approximate quantification of finance flows targeting biodiversity.

Whilst a large number of members draw on Rio markers to provide the *basis* for their reporting to the CBD, in doing so a recent OECD DAC survey has revealed that many members are applying coefficients to adjust the share of finance reported internationally to the Rio Conventions. There is however no agreed approach to this and little evidence to inform the scale of these adjustments, which leads to a range of coefficients being used. This is particularly the case with respect to *significant* marker data, where parties apply coefficients to the markers that vary from 0% to 100% (OECD DCD, 2014 *forthcoming*).

Multilateral ODA is not Rio marked within the CRS system but work is underway under the OECD DAC Joint ENVIRONET-WP-STAT Task Team[5] to reconcile "green" multilateral finance flows and going forward, through increased collaboration with MDB's, it may be possible to calculate *imputed multilateral contributions* targeting biodiversity.

Other official flows (non-ODA, i.e. non-concessional flows) are not yet Rio marked by all members, but a formal decision in 2011 was adopted to mark non-export credit OOF on a voluntary basis. Once members begin to apply the Rio markers, these figures can be used to report on non-ODA public funding. The CRS provides a framework to report on South-South cooperation initiatives, however very few countries are voluntarily reporting to date. In addition, the DAC statistical system does not explicitly track capacity building/technology transfers within the ODA portfolio, but aid can be monitored to a given sector and to capacity building-type activities based on categories. These figures, however, would be a subset of total bilateral ODA[6]. Total bilateral biodiversity-related aid commitments by members of the

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[5] The OECD DAC Joint Task Team of the Network on Environment and Development Co-operation (ENVIRONET) and Working Party on Development Finance Statistics (WP-STAT) on improvement of Rio markers, environment and development finance statistics was revived in November 2013. The overarching goal is to ensure that DAC methodologies and data remain the reference for the international community in measuring Official Development Assistance (ODA) and non-export credit Other Official Flows (OOF) related to climate change, biodiversity, desertification and other environmental concerns. For further information please contact Valerie.Gaveau@OECD.org and Stephanie.Ockenden@OECD.org. Work is underway through the task team to improve the data:
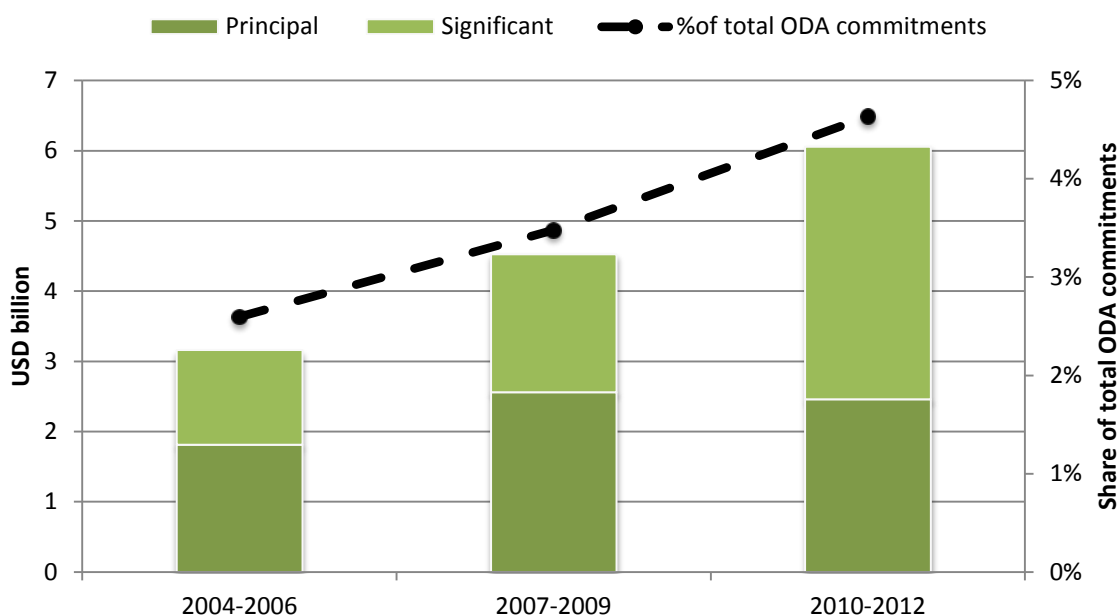
- **Quality:** improving members' application of the Rio markers and reporting to DAC on ODA and OOF, and options to improve the definitions and application of the environment and Rio markers;
- **Coverage:** greater collaboration with MDBs to improve the reconciliation of "green" multilateral finance flows within DAC statistics and for DAC to lead in developing a system for attributing multilateral environmental-related finance flows;
- **Use:** exploring options and basis for developing a harmonised methodology for how to use Rio marker data for reporting to the Conventions, and for continued co-operation with the Rio conventions;
- **Communication:** improving the communication, user access and online profile of the OECD DAC environmental data, to make data more accessible, including providing training to OECD and partner countries on how to draw on the data.

[6] This subset of bilateral ODA could be used to monitor progress towards Indicator 9, which aims to monitor the amount and number of South-South and North-South technical cooperation and capacity-building initiatives that support biodiversity.

OECD DAC reached USD 6.1 billion, on average, per year in 2010-2012, representing 5% of total ODA commitments (Figure 10). A majority of these funds (59%) targeted biodiversity as a significant objective, while 41% targeted biodiversity as the principal objective. The average growth in biodiversity-related funding is primarily coming from aid activities that incorporate biodiversity as a significant rather than primary objective.

Figure 2. Trends in biodiversity-related aid, three-year averages

2006-2012, bilateral commitments, USD billion, constant 2011 prices

Source: OECD DAC Statistics, Aid to Biodiversity, (March 2014 -- to be updated June 2014).

V. OECD and Eurostat data on Environmental Protection Expenditures and Revenue

Description of the dataset

The OECD and Eurostat collect environmental protection expenditure and revenue data from all OECD countries and European Union member states, as well as candidate countries and EFTA countries. Expenditures are classified into four main sectors: public, business (mining and quarrying; manufacturing; and electric, gas and water supply), households, and specialised producers (both public and private enterprises) of environmental protection services (such as waste collection). The public sector and specialized producers are actors who produce environmental protection services for use by other sectors; the public sector producing non-market services and specialised producers market services. Environmental protection expenditures are classified by environmental domains according to the Classification of Environmental Protection Activities (CEPA), including:

1. Protection of ambient air and climate

2. Wastewater management

3. Waste management

4. Protection and remediation of soil, groundwater and surface water refers

5. Noise and vibration abatement

6. Protection of biodiversity and landscape

7. Other

Possible Indicators

The environmental protection expenditure data may be used for indicators 1(b) and 3[7] of the strategy for resource mobilisation to monitor domestic resources from both the public sector and from business to biodiversity and landscape protection8. For indicator 1(c) on private sector financial flows, the subset on business sector expenditure could be used for this purpose, but would only capture domestic financial flows. Annual data for public sector funding is fairly comprehensive with gaps in reporting from a few countries and no reporting for others. Data from business however is much sparser, however, and many countries not reporting at all.

An aggregate indicator for both the public and business sectors could monitor financial resources from domestic budgets at all levels towards biodiversity-related activities. Isolating business expenditures could monitor financial resources from the private sector, but would only capture domestic spending. It is important to clearly identify which figures are being reported so as to eliminate the risk of double counting (i.e. including private sector spending with domestic budgets).

(1): For Indicators 1(b) and 3: Total investment expenditures + internal current expenditures (Public + business sectors)

(2): For Indicator 1(c): Total investment expenditures + internal current expenditures (business sector only)

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[7] Target 3 is intended to measure the amount of domestic financial support, per annum, in respect of those domestic activities which are intended to achieve the objectives of the Convention.

[8] Data on specialized producers does not specifically identity resources to biodiversity and landscape protection, although resources from this sector are likely marginal.

Table 1. Summary of OECD datasets relevant for Target 3 and 20 and issues for consideration

Database	Data collection and current country coverage	Issues/ Considerations
EPNRM	1998-present 53 countries	• Adjust categories to reflect biodiversity as its own environmental domain • Introduce additional categories of instruments for PES and biodiversity offsets
PSE	1987-present 47 countries	• A set of indicators could be developed from the PSE database to monitor both harmful and positive incentives for biodiversity in the agricultural sector
GFT	1965-present OECD countries, Argentina, Chinese Tapei, Russian Federation, Thailand	• A subset of data could be used to develop an indicator on proportion and amount of GFT with negative impacts on biodiversity • Establish labels to develop an indicator on proportion and amount of GFT with environmental input constraint
CRS	Rio marker data available from 1998-present[9] 29 DAC members, 8 non-DAC countries, 30 multilateral organizations, 1 Private donor	• To date only DAC members are applying the Rio markers to bilateral ODA • DAC members agreed in 2011 to apply Rio markers to non-export credit OOF • Multilateral organisations do not currently apply Rio markers
EPER	1990 - present OECD members, European Union members as well as candidate and EFTA countries	• Environmental protection expenditure can be used to monitor both public and business sector domestic financial flows to biodiversity • Data is sparse for business-sector financial flows, and does not include international flows

Please send any comments or suggestions on this work to: Katia Karousakis (katia.karousakis@oecd.org) and Christina Van Winkle (christina.vanwinkle@oecd.org)

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9 Note: Rio marker reporting began in 1998 for DAC members and became compulsory in 2007. Non-DAC countries and other organizations do not apply the Rio markers .