

Implementation of the System of Environmental- Economic Accounting in Latin America and the Caribbean

Advances, Gaps, and Policy Challenges

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Abstract

The System of Environmental-Economic Accounting (SEEA) provides an internationally agreed statistical framework for the integration of environmental and economic information and to strengthen the implementation of evidence-based sustainable development policies. In Latin America and the Caribbean, however, the implementation of environmental-economic accounting remains uneven, both across countries and across different types of accounts.

This paper presents the main findings of the 2023 regional survey on environmental and climate change statistics, indicators and accounts conducted by the Economic Commission for Latin America and the Caribbean (ECLAC), with particular emphasis on the implementation of the SEEA. The survey provides information from 30¹ countries and territories and constitutes an important regional diagnostic of the institutional and technical conditions underlying environmental-economic accounting.

The results show that only 10 of the 30 countries and territories analyzed reported progress in environmental accounting, while 20 reported that they did not have procedures for producing environmental accounts according to the framework. Among countries undertaking accounting activities, implementation is concentrated in water, energy and forest accounts, while ecosystem and biodiversity accounts remain considerably less developed. Regular dissemination is also limited: according to the survey responses, Colombia, Costa Rica, Mexico and Panama are the only countries who have reported regular publication.

The survey further reveals that the main barriers to implementation are structural barriers. Lack of financial resources is the most frequently identified limitation, followed by insufficient availability of information, human-resource constraints, institutional coordination challenges and lack of technical knowledge. These constraints are compounded by information-quality problems, staff turnover, limited legal mandates and weak institutionalization.

The results show a growing demand for environmental-economic accounting. Environmental accounts are used to support public policy development, construct indicators, inform government institutions and general public, and to develop economic models and analyses. The survey also shows strong demand for technical training, particularly in the SEEA as a whole and in ecosystem accounting.

Accelerating SEEA implementation in Latin America and the Caribbean requires moving from isolated accounting exercises toward sustained national statistical processes. A regional strategy should combine institutional coordination, investment in specialized human resources, improvement of environmental information systems, progressive development of priority accounts, regular dissemination and stronger integration of accounting results into public policy. The regional challenge is therefore not simply to produce more accounts, but to build the institutional and technical conditions that allow environmental-economic accounting to become a permanent component of National Statistical Systems (NSS) and an operational instrument for evidence-based policymaking.

Introduction

The capacity of governments to design and evaluate sustainable development policies increasingly depends on integrated information on economic activity and the environment. Economic and environmental statistics have traditionally developed as separate domains, making it difficult to systematically assess the links between economic activity, environmental pressures and the use and condition of natural resources.

The System of Environmental-Economic Accounting (SEEA) responds to this challenge by providing a common statistical framework for integrating economic and environmental information. The framework establishes concepts, definitions, classifications, accounting rules and tables agreed at the international level, while allowing countries to adapt implementation to national priorities. Its combination of standardization and flexibility makes it particularly relevant for countries with different statistical capacities and environmental priorities. More importantly, SEEA implementation can be progressive.

¹ Antigua and Barbuda, Argentina, Aruba, Bahamas, Belize, Bermuda, Bolivia, Brazil, Chile, Colombia, Costa Rica, Cuba, Dominica, Ecuador, El Salvador, Grenada, Guatemala, Guyana, Jamaica, Mexico, Panama, Paraguay, Peru, Dominican Republic, Saint Kitts and Nevis, Saint Vincent and the Grenadines, Suriname, Trinidad and Tobago, Uruguay, Venezuela (Bolivarian Republic of).

Countries can begin with priority accounts based on available information and institutional capacities and subsequently expand both the scope and sophistication of their accounting systems.

For Latin America and the Caribbean, the development of environmental-economic accounting is especially relevant. The region faces a combination of economic, social and environmental challenges that require increasingly integrated information. Natural resources, water, forests, energy and ecosystems are closely connected with economic activity and public policy. On the other hand, considerations have to be taken since countries differ substantially in their statistical capacities, institutional arrangements, information systems and experience with environmental accounting. This scenario implies that SEEA implementation in the region has to be a progressive process, with countries advancing at different speeds and prioritizing different accounting areas according to their national circumstances.

Nevertheless, implementation across the region remains uneven. The 2023 ECLAC survey provides a particularly useful opportunity to assess the current situation. Of the 30 countries and territories responding to the section on environmental-economic accounting, only 10 reported progresses in SEEA implementation, while 20 reported that they did not have procedures for producing environmental accounts according to the framework. This result indicates a significant gap in implementation.

At the same time, the survey provides evidence of progress in some countries. Compared with the situation identified in the 2015 survey, the 2023 exercise includes additional countries reporting technical work on environmental accounts. In 2015, Colombia, Ecuador, Guatemala and Mexico had reported continue working, while by 2023 this group also included Bahamas, Brazil, Costa Rica, Dominican Republic, Panama and Peru.

The regional scenario is therefore neither one of stagnation nor one of generalized implementation. Rather, it is characterized by gradual expansion combined with substantial differences in implementation maturity and persistent structural constraints. The main challenge is not simply to initiate SEEA implementation, but to establish a progressive implementation pathway that allows countries to consolidate existing accounts while building the institutional, informational and technical capacities required to expand into more advanced areas of environmental-economic accounting.

This uneven pattern raises an important question: what are the main institutional, informational, human-resource and financial factors that constrain countries' capacity to move from initial environmental accounting activities toward sustained and progressively broader SEEA implementation?

This report addresses this question by analyzing the results of the 2023 survey with three objectives. First, it describes the current state of environmental-economic accounting in the region. Second, it identifies the institutional, human-resource and information gaps that constrain implementation. Third, it translates these findings into policy priorities for accelerating implementation and strengthening the use of environmental accounts in public decision-making.

The core argument is that the next phase of SEEA implementation should focus not only on increasing the number of countries producing environmental accounts, but also on institutionalizing regular production, strengthening underlying information systems and increasing the policy use of accounting results.

Data and Methodological Approach

The analysis presented in this report is based on self-reported information provided by participating countries and should therefore be interpreted as a regional diagnostic of reported institutional and statistical conditions rather than as an independent assessment of the quality or maturity of national accounting systems.

For the specific section on the System of Environmental-Economic Accounting, the survey includes information from the 30 countries and territories participating in this section. The survey allows the regional situation to be examined from several dimensions, including implementation status, institutional responsibility, types of accounts developed, human resources, constraints, use of accounts and technical training needs.

The analysis is descriptive and regional. It does not attempt to establish causal relationships between institutional characteristics and the level of SEEA implementation. Instead, it identifies patterns reported by countries and interprets their implications for regional statistical and environmental policy.

Limitations

This analysis should be interpreted considering a few methodological limitations.

First, the findings are based on self-reported information provided by countries and territories participating in the 2023 ECLAC survey. The survey therefore provides an important regional diagnostic of reported institutional, technical and informational conditions, but it does not constitute an independent assessment of the quality, completeness or maturity of national environmental-economic accounting programmes. Differences in how countries interpret and report their activities may therefore affect the comparability of individual responses.

Second, the number of respondents varies across the different questions included in the SEEA section of the survey. While 30 countries and territories provided information on the general status of SEEA implementation, fewer countries responded to specific questions on the types of accounts developed, human resources, implementation constraints and technical training needs. In particular, nine countries responded to the question on types of accounts, 12 to the question on human resources, 13 to the question on implementation constraints and 17 to the question on technical training needs. Consequently, the denominator varies across the different results presented in this report, and findings related to specific dimensions of implementation cannot be generalized to all 30 countries and territories. Percentages and counts should therefore be interpreted in relation to the response base for each individual question.

Finally, the survey provides limited information on the actual policy impact of environmental accounts. Although countries report using environmental accounts to support indicators production, policy development, institutional decision-making and economic analysis, the available information does not systematically measure the frequency, depth or effectiveness of such use. Future regional assessments could strengthen this dimension by incorporating indicators of account quality, regularity of production, dissemination, policy uptake and integration into planning and decision-making processes.

Regional Status of SEEA Implementation

The first and most important result of the survey concerns the number of countries that have initiated environmental-economic accounting.

Of the 30 countries and territories that provided information for the SEEA section, only 10 (33.3%) reported progress in implementing environmental accounts. The remaining 20 (66.7%) reported explicitly that they did not have procedures for producing environmental accounts according to the framework.

This finding should not be interpreted as evidence that environmental statistics are absent in those countries. Environmental statistics and indicators can exist without being organized into an environmental-economic accounting system. The survey characterizes environmental accounting as an

additional step in the development of environmental statistics because it requires environmental information to be integrated and systematized.

This distinction is important. The regional challenge is therefore not simply to generate more environmental data, but to transform existing and new information into an integrated statistical system that can be systematically linked to economic activity.

Chart 1. Status of SEEA implementation in LAC, 2023.



Source: ECLAC, 2023 SEEA survey.

Although the current level of implementation remains limited, the survey provides evidence of progress over time.

In the 2015 survey, Colombia, Ecuador, Guatemala and Mexico were identified as countries reporting continuous work on environmental accounts, while by 2023, this group had expanded including Bahamas, Brazil, Costa Rica, Dominican Republic, Panama and Peru.

This improvement is important because it indicates that SEEA implementation has expanded beyond a small group of countries with longer-standing experience but it should be interpreted cautiously since the information presented in the source does not provide a complete comparable time series of implementations for every country, nor does it necessarily imply that the institutional maturity of each accounting system is equivalent.

Nevertheless, the expansion of the group demonstrates a positive regional trend. The key question is whether this expansion can be consolidated. Increasing the number of countries initiating accounting activities is an important first step, but long-term progress will depend on whether those initiatives become institutionalized, adequately staffed, regularly financed and connected to national policy processes.

Institutional Arrangements for Environmental Accounting

The survey shows substantial diversity in the institutional location of environmental-economic accounting.

National Statistical Offices are reported as responsible institutions in Bahamas, Brazil, Colombia, Ecuador, Mexico, and Peru. Central Banks are identified under this role in Costa Rica, El Salvador, Guatemala and Venezuela (Bolivarian Rep. of). Environmental authorities are responsible in the Dominican Republic and Panama.

The diversity of arrangements suggests that a single institutional model should not be imposed across the region. Instead, regional cooperation should focus on identifying the institutional functions that must be present regardless of organizational structure.

These functions include statistical coordination, methodological responsibility, access to environmental information, data integration, quality assurance, regular compilation, dissemination and connection with policy users.

Table 1. Institutional responsibility reported in the survey by countries.

Institutional arrangement	Countries identified
National Statistical Office	Bahamas, Brazil, Colombia, Ecuador, Mexico, Peru
Central Bank	Costa Rica, El Salvador, Guatemala, Venezuela (Bolivarian Rep. of)
Environmental authority	Dominican Republic, Panama
Decentralized ministerial approach	Uruguay

Source: ECLAC, 2023 SEEA survey.

Note: Categories are not necessarily mutually exclusive, as countries may report a lead institution as well as interinstitutional coordination arrangements.

The survey provides several examples of mechanisms designed to strengthen institutional coordination.

Colombia reports to a technical committee on environmental statistics within its National Statistical System. Costa Rica has a National Environmental Accounts Council. Venezuela has working and cooperation groups. Panama has strengthened coordination through technical committees involving the Ministry of Environment and the National Statistical Office. Mexico reports interinstitutional working groups within its national statistical and geographic information system. Chile has an Interinstitutional Committee on Environmental Information and Environmental Accounts.

These examples are particularly relevant because environmental-economic accounting generally requires information from multiple producers.

Peru, for example, involves the National Statistical Office, Ministry of Environment, National Water Authority and National Forest and Wildlife Service in environmental accounting activities. This illustrates a fundamental characteristic of SEEA implementation: environmental accounts are inherently interinstitutional.

Therefore, coordination mechanisms should be treated as part of statistical infrastructure.

Types of Environmental Accounts

The survey identifies important differences in the development of specific environmental accounts.

Among the nine countries responding to this question, eight reported water accounts, eight reported works on the comprehensive SEEA² (as classified in the survey), five reported energy accounts, five reported forest accounts, three ecosystem accounts and only one biodiversity account.

The pattern reveals two distinct levels of implementation. The first is represented by resource-oriented accounts, particularly water, energy and forests. The second corresponds to newer and more complex accounting areas, especially ecosystems and biodiversity.

Water is clearly the most widespread area of accounting activity. This is consistent with the policy importance of water resources and the existence of relatively established information systems in many countries.

Energy also represents a significant area of work. Energy accounts can provide important links between economic activity, energy use and environmental pressures.

Forest accounts are also relevant in a region where forests represent important environmental and economic assets.

In contrast, ecosystem and biodiversity accounting are still emerging. The limited development of these accounts represents one of the most important gaps identified by the survey.

Table 2. Types of environmental accounts reported by countries.

Type of account	Countries reporting work
Water	Brazil; Colombia; Costa Rica; Dominican Republic; Guatemala; Mexico; Panama; Peru
Comprehensive SEEA	Bahamas; Brazil; Colombia; Costa Rica; Guatemala; Mexico; Panama; Peru
Energy	Brazil; Colombia; Costa Rica; Dominican Republic; Mexico
Forests	Brazil; Colombia; Costa Rica; Guatemala; Peru
Ecosystems	Brazil, Guatemala; Mexico
Biodiversity	Brazil

Source: ECLAC, 2023 SEEA survey.

The survey provides evidence that the region is beginning to move toward broader environmental accounting.

Six countries reported plans to expand or add ecosystem accounts, while four countries reported plans related to biodiversity, including consolidation of existing work in Brazil. The survey also identifies future interest in the comprehensive SEEA and in energy and forest accounts.

This situation creates an important policy opportunity. The low current level of implementation in ecosystem and biodiversity accounting is accompanied by significant interest.

² It refers to countries that have adopted the full Central Framework (not individual accounts).

The implication is that the region should prepare for a gradual expansion from relatively established resource accounts toward more comprehensive approaches that capture ecosystem conditions and biodiversity.

This transition will require additional technical capacity and improved environmental information. It also provides an opportunity for regional cooperation because countries beginning ecosystem and biodiversity accounting may face similar methodological and data challenges.

Table 3. Future expansion priorities reported by countries.

Area	Countries priorities
Ecosystems	Bahamas; Brazil; Colombia; Costa Rica; Ecuador; Mexico
Biodiversity	Bahamas; Brazil; Colombia; Ecuador
Other areas / comprehensive SEEA	Bahamas; Peru
Energy	Dominican Republic, Ecuador; Mexico
Forests	Brazil; Ecuador; Panama
Climate Change	Colombia; Ecuador
Water	Ecuador

Source: ECLAC, 2023 SEEA survey.

Human Resources: The Institutional Capacity Constraint

Environmental-economic accounting requires specialized personnel capable in combining statistical, economic and environmental knowledge.

The survey shows that this capacity remains limited. Only 12 countries provided information on their accounting teams. From this group, seven countries — Brazil, Colombia, Costa Rica, Ecuador, Jamaica, Mexico and Peru, —reported personnel working full-time on environmental accounting.

Team sizes were generally small. Costa Rica, Ecuador, Jamaica and Peru reported teams of one or two people. Brazil and Mexico reported teams of three to five people, while Colombia reported a team of six to ten people. Bahamas reported having no personnel fully dedicated to the topic.

This situation represents an important vulnerability. When an environmental accounting program depends on one or two specialists, the loss or reassignment of even one person can substantially affect institutional continuity.

The challenge is therefore not simply to train individuals. Countries need to build institutional capacity that survives personnel changes.

The survey also asked about future recruitment. Argentina, the Bahamas Colombia, Costa Rica and Dominican Republic, reported plans to hire personnel for environmental accounting. These plans generally involved one or two people, although Argentina and Colombia reported plans to recruit three to five people. In contrast, Chile, Ecuador, Mexico Peru and Uruguay, reported no plans to hire additional personnel.

This result has an important policy implication. There is growing interest in environmental accounting, but this interest does not necessarily translate into additional permanent human resources.

The region therefore faces a potential mismatch between increasing demand and limited staffing capacity.

A sustainable regional strategy should address this problem through permanent positions within national statistical systems, specialized training, regional communities of practice, peer-to-peer technical

cooperation, methodological documentation, institutional memory and knowledge management, and mechanisms to reduce the impact of staff turnover.

Main Constraints to SEEA Implementation

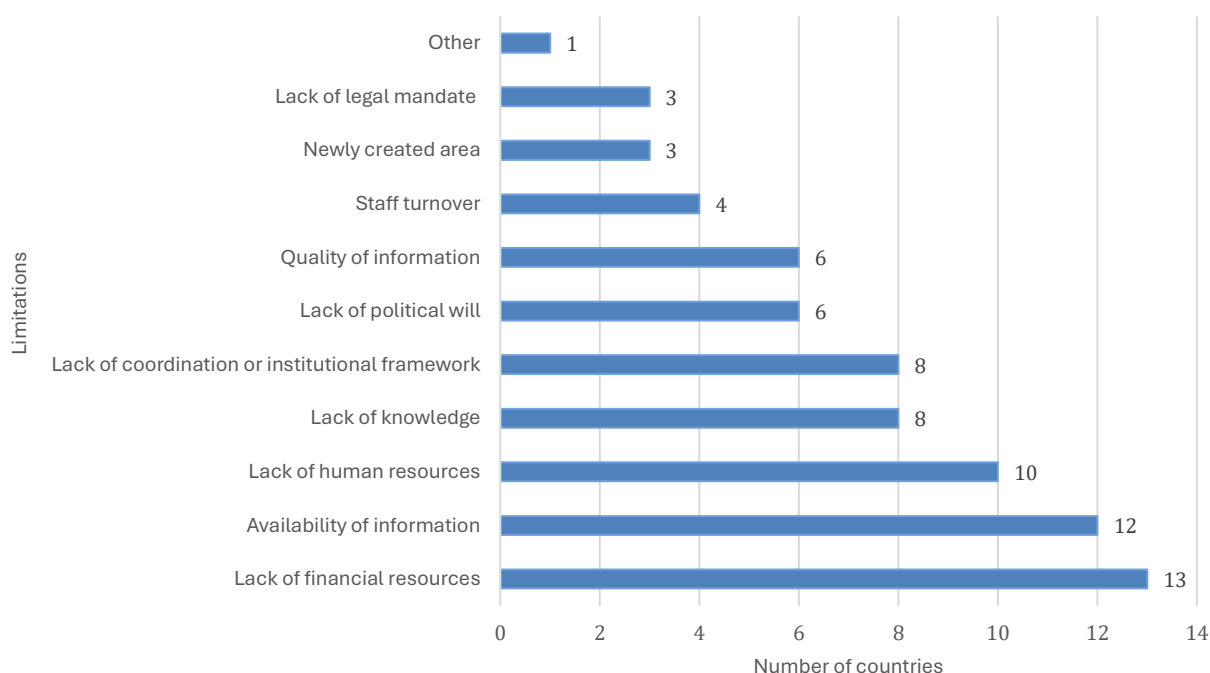
The survey provides one of the clearest representations of the structural barriers facing environmental accounting.

Only thirteen countries provided information on limitations. Lack of financial resources was identified by all of them, and it was therefore the most frequently reported constraint. Availability of information was identified by 12 countries, lack of human resources and lack of coordination or institutional framework by 10 each, and lack of knowledge and information quality by eight each. Other limitations included lack of political will, staff turnover, lack of legal mandates and recently created institutional areas.

The structure of these responses is significant because the barriers are not concentrated in one dimension. The problem is simultaneously financial, informational, institutional and human.

This suggests that providing methodological guidance alone will not be sufficient to accelerate implementation.

Chart 2. Main reported limitations by countries



Source: ECLAC, 2023 SEEA survey.

The fact that lack of financial resources was identified by all 13 countries responding to the question of limitations is particularly relevant. Environmental accounting requires sustained investment in personnel, data collection, information systems, methodological development, quality assurance and dissemination. If accounting initiatives depend on temporary projects, their continuity can be difficult to guarantee.

A policy implication is that SEEA implementation should be incorporated into national statistical planning and regular institutional budgets. This does not mean that all countries need to establish large,

specialized units immediately. Rather, they should progressively establish predictable resources corresponding to their implementation stage.

Information availability was the second most frequently identified limitation. This finding is particularly important because environmental-economic accounting depends on the integration of information produced by multiple institutions.

The accounting process requires information to be sufficiently available, consistent and of adequate quality. The survey identifies both availability and quality of information as important constraints.

This suggests that regional efforts should not focus exclusively on producing new data. An equally important priority is improving the interoperability, accessibility and consistency of existing information.

SEEA implementation can itself become a diagnostic instrument for national environmental information systems.

A pilot environmental account can reveal which information already exists, which institutions produce it, which data are missing, which variables are inconsistent, where time-series gaps exist, and which datasets require methodological improvement.

The source explicitly emphasizes this advantage of pilot accounts, noting that countries can begin with individual accounts and preliminary data in order to demonstrate usefulness, identify missing information and define subsequent steps.

The Use of Environmental Accounts in Public Policy

The value of environmental accounting ultimately depends on its use. The survey reports that environmental accounts are used to support public policy development, inform other institutions and the population, construct indicators, and create economic models and analyses.

The main users include other government institutions, National Statistical Offices, international organizations, Ministries of Environment, universities and research centers, and the general population.

The broad user base demonstrates that environmental accounts are not exclusively statistical products. They can function as infrastructure for public decision-making.

The strongest potential policy linkage is between environmental accounts and government planning. If accounts are regularly produced and integrated with policy indicators, they can support the monitoring and evaluation of policies involving water, energy, forests, ecosystems and other environmental assets.

This creates a virtuous cycle: policy demand → data integration → environmental accounts → indicators and analysis → policy evaluation → new information needs. Strengthening this cycle should be a central objective of the next phase of regional implementation.

Table 4. Main users of environmental accounts.

User	Countries mentioning this user
Other government institutions	10
National Statistical Office	9
International organizations	9
Ministry of Environment	8
Universities and research centers	6
General population	5
Other countries	2

Source: ECLAC, 2023 SEEA survey.

A distinction should be made between producing an environmental account and institutionalizing its publication. Although several countries report accounting activities, most do not publish environmental accounts regularly.

The survey identifies Colombia, Costa Rica, Mexico and Panama countries that reported regular publication and provided corresponding links. This finding suggests that regional monitoring of SEEA implementation should include indicators of regular dissemination.

A country that has produced a pilot account once should be distinguished from a country that produces and publishes an account regularly. Both represent progress, but they represent different levels of institutional maturity.

A possible regional monitoring framework could therefore distinguish countries with no SEEA activity; countries developing pilot accounts; countries producing accounts periodically; countries with regular production; and countries integrating accounts into policy analysis.

Such a classification would provide a more informative picture of regional progress than a simple binary measure of implementation.

Discussion: From Accounting Projects to National Statistical Systems

The findings of the 2023 ECLAC SEEA survey suggest that the main challenge for environmental-economic accounting in Latin America and the Caribbean is moving from initial implementation toward sustained and increasingly integrated statistical processes. Although the number of countries reporting environmental accounting activity has increased since 2015, implementation remains uneven, and progress should therefore be assessed not only by participation but also by the degree to which accounting activities have become institutionalized and regularly produced and disseminated.

Institutional maturity is closely linked to capacity and information constraints. Financial resources, specialized human resources, information availability and quality, and interinstitutional coordination interact to determine whether countries can sustain accounting programmes over time. Small teams and fragmented information systems can make countries vulnerable to staff turnover and increase the effort required to produce accounts regularly. Consequently, capacity-building should extend beyond technical training to include sustained human resources, methodological documentation, institutional coordination, stronger information systems and predictable resources.

The survey also shows that accounting remains concentrated in water, energy and forest accounts, while ecosystem and biodiversity accounts are less developed. This reflects a progressive approach to implementation, beginning with areas where data and institutional experience are more established. However, the growing interest in ecosystem and biodiversity accounts suggests an emerging opportunity to broaden the scope of accounting. Regional cooperation could facilitate this process by allowing countries to share methodologies, data solutions and institutional experience.

Finally, environmental accounts are already being used to support policy development, indicators production, government analysis and economic modelling. However, the survey provides limited evidence on the depth and systematic nature of this use. Strengthening the link between accounting production, dissemination, analysis and policy processes will therefore be important for generating sustained demand for environmental information.

Overall, the next phase of SEEA implementation should focus on institutional maturity rather than expansion alone. Regional progress will depend on whether environmental-economic accounting

becomes continuous, adequately resourced, methodologically robust, regularly disseminated and increasingly integrated into decision-making. In this sense, SEEA implementation should be understood not only as an effort to produce environmental accounts, but as a means of strengthening the statistical systems, information infrastructure and institutional coordination needed to support evidence-based environmental and economic policymaking across the region.

Conclusions

The 2023 ECLAC SEEA survey shows that environmental-economic accounting in Latin America and the Caribbean is advancing but remains far from generalized. Only 10 of the 30 countries and territories surveyed reported work on environmental accounts, although this represents an expansion since 2015. Implementation remains concentrated in water, energy and forest accounts, while institutional responsibilities are distributed unevenly across National Statistical Offices, Central Banks and environmental authorities. Limited human-resource capacity is a particularly important vulnerability, with several countries relying on teams of only one or two people or having no dedicated staff. Financial resources are the most frequently reported constraint, followed by information availability, human resources and institutional coordination.

Despite these challenges, the survey demonstrates the practical value of environmental-economic accounting. Existing accounts are already being used to support public policy, construct indicators, inform government institutions and strengthen economic analysis. The priority for the next phase is therefore not simply to increase the number of countries initiating SEEA implementation, but to ensure that accounting becomes an established and sustainable component of national statistical systems.

Five priorities emerge from the regional experience. First, institutional coordination should be strengthened, particularly between National Statistical Offices and environmental authorities. Second, countries need dedicated and sustainable human-resource capacity. Third, environmental information systems should be improved, with accounting exercises used to identify and address data gaps. Fourth, implementation should progressively expand from established resource accounts toward ecosystem and biodiversity accounting. Finally, greater emphasis should be placed on the regular dissemination and policy use of environmental accounts.

The flexibility of the SEEA provides an important basis for pursuing these priorities. Countries do not need to establish a comprehensive accounting system from the outset. A progressive approach allows them to begin with priority accounts, build on existing information, address data gaps and gradually expand the scope and sophistication of their accounts. This can help align implementation with national priorities and available institutional capacity while maintaining a clear long-term direction.

Ultimately, the success of SEEA implementation should be measured not only by the number of accounts produced, but by countries' capacity to maintain, expand, disseminate and use them over time. This requires moving beyond isolated or project-based initiatives toward sustained integration of environmental-economic accounting into national statistical systems. In this sense, the SEEA is not only a framework for producing environmental accounts, but also a means of strengthening environmental information, institutional cooperation and statistical capacity, thereby improving the evidence base for public decision-making across the region.

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