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Global Partnership for Sustainable Development Data

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INSTITUTO NACIONAL DE ESTADISTICA Y CENSOS

Report

Forum on Data for Sustainable Development

"The Roadmap for Costa Rica"

San José, Costa Rica

NACIONES UNIDAS
UNITED NATIONS
CEPAL
ECLAC

OBJETIVOS DE DESARROLLO SOSTENIBLE

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1. Introduction

In partnership with the Global Partnership for Sustainable Development Data (GPSDD), the Economic Commission for Latin America and the Caribbean (ECLAC), and the Centro de Pensamiento Estratégico Internacional (CEPEI), the Government of Costa Rica organized and held the National Forum on Data Roadmaps for Sustainable Development to contribute to the creation of a roadmap to support the generation of data on sustainable development. Institutions from different sectors of the country gathered to discuss and contribute ideas to define the way forward.

In September 2015, the member countries of the United Nations adopted the 2030 Agenda for Sustainable Development with the purpose of responding to diverse global issues including poverty, inequality, and environmental protection.

The 2030 Agenda commits to achieve 17 Sustainable Development Goals (SDGs):

1. No Poverty
2. Zero Hunger
3. Good Health and Well-Being
4. Quality Education
5. Gender Equality
6. Clean Water and Sanitation
7. Affordable and Clean Energy
8. Decent Work and Economic Growth
9. Industry, Innovation, and Infrastructure
10. Reduced Inequality
11. Sustainable Cities and Communities
12. Responsible Consumption and Production
13. Climate Action
14. Life Below Water
15. Life on Land
16. Peace, Justice, and Strong Institutions
17. Partnerships for the Goals

The UN High-Level Political Forum on Sustainable Development encourages member states to conduct and present Voluntary National Reviews, assessing their SDG progress, following up on the implementation of the 2030 Agenda, promoting partnerships between countries and participating entities, and sharing lessons learned. In 2017 Costa Rica joined 43 other countries presenting their Voluntary National Reviews.

To address these challenges, the Government of the Republic of Costa Rica established the High-Level Commission for the Governance of the 2030 Agenda, composed of the President of the Republic and the Ministers of Foreign Affairs, National Planning and Economic Policy (Mideplán), and Environment and Energy. Mideplán runs the commission's Technical Secretariat, and the National Institute of Statistics and Census (INEC) functions as its statistical advisory body. It is also advised by a Consultative Committee made up of representatives from the public, private, and civil society sectors, as well as a set of technical committees.

The SDGs have more than 240 statistical indicators used to identify a baseline for each goal, establish national goals for the country, and monitor progress.

These indicators are both a challenge and an opportunity. They are a challenge because in many cases they are methodologically complex and require data that may not be available. But they also are an opportunity for the National Statistics System, as they create a political and technical framework for strengthening national statistics.

The analysis showed that about 60 percent of the information required for calculating the SDG indicators is available, so there is a challenge to obtain the remaining 40 percent.

The forum provided an opportunity to meet that challenge. It combined the experience of international and civil society organizations, as well as that of other countries and private companies, and fostered knowledge sharing.

The forum aimed to provide and collect input and ideas to design a data roadmap that will support Costa Rica's efforts to achieve the SDGs through intersectoral and interagency work.

Ad hoc working groups gathered during the forum and identified the main obstacles, in terms of data, technology, policies, resources, and capacity, to developing a proprietary data ecosystem approach, led by and aligned with national priorities and engaging all stakeholders. Participants then outlined a roadmap to overcome these obstacles.

1.1 Forum Objectives

- Fostering a discussion with key stakeholders on the current approach to address the SDGs in terms of data, and how this approach will align with national development priorities
- Identifying and prioritizing, along with local stakeholders, the critical needs for an improved data ecosystem in Costa Rica
- Strengthening the national data capacities for sustainable development and the SDGs, and how data can be applied for improved decision-making
- Defining the roadmap to be followed by Costa Rica, in partnership with national and international organizations

1.2 Themes in the Agenda

The agenda included multiple topics related to the generation of data, with a special emphasis on new sources of data and the technologies required to obtain them:

- The national strategy for the SDG implementation, including challenges and opportunities
- Data availability for SDG indicators, including gaps and opportunities
- Data roadmaps for sustainable development and experiences from countries such as Colombia, Mexico, Ecuador, and Ghana.

- Leaving no one behind: the importance of data disaggregation
- A session on administrative data
- Open data, geospatial and Earth observations, and new data sources
- Policy and enabling environment
- The roadmap

2. Opening

The Minister of National Planning and Economic Policy, Olga Marta Sánchez opened the forum. She was accompanied by Fernando Ramírez, President of the Board of Directors of INEC. Other attendees included representatives of international organizations that supported the event, such as Aditya Agrawal, on behalf of the GPSDD; Fredy Rodríguez from CEPEI; and Daniel Taccari from the Statistics Division of ECLAC.

Taccari stressed ECLAC's commitment to providing technical support to Costa Rica, especially to INEC, to lead the data roadmap creation. He also spoke about Costa Rica's commitment to the 2030 Agenda and its willingness to collaborate with different statistical bodies for the SDG indicators, such as the Statistical Coordination Group for the 2030 Agenda of the Statistical Conference of the Americas (CEA-ECLAC) and the High-Level Group for Partnership, Coordination, and Capacity-Building (HLG-PCCB) of the UN Statistics Division.

Ramírez spoke about the challenges and opportunities provided by the SDGs for strengthening the National Statistical System (SEN), and the way in which INEC implements its mandate in Costa Rica's SDG governance model.

For their part, the GPSDD and CEPEI representatives emphasized the importance of the private sector and government working together to achieve the goals of the 2030 Agenda to provide the necessary information for the monitoring of the SDGs, the work that these organizations carry out to support the 2030 Agenda, and, especially, the collaboration they provide for the construction of country roadmaps that will produce data on sustainable development.

Lastly, Minister Sánchez referred to Costa Rica's commitment to the 2030 Agenda and its parallels with the country's development aspirations. She emphasized the need to convert the 2030 Agenda into state policy. She also commented on the complexity of its implementation and the importance of accountability, hence the need to design and establish a data roadmap that reflects priorities for Costa Rica, and the need to expand its statistical capacity.

3. Development of the Forum

3.1 The National Implementation Strategy of the 2030 Agenda and the Challenge Presented by the Data Creation for the SDG Indicators

The way in which the country has assumed 2030 Agenda implementation was addressed: the national strategy, governance for the SDGs, data availability, and the challenge represented when generating data (above all, to fulfill the commitment of leaving no one behind). In the same manner, other countries attending the event shared their experiences in the construction of roadmaps for the generation of data.

3.2 Costa Rica Committed to the 2030 Agenda

The Ministry of National Planning and Economic Policy, in its role as Technical Secretariat for the implementation of the 2030 Agenda in Costa Rica, referred to the structure the country has developed for the adoption of the 2030 Agenda, its alignment with the National Development Plan, and national planning instruments. In this effort, the signature of the National Pact for the SDGs is significant, as it engaged the three powers of the Republic (executive, legislative, and judicial), the Supreme Electoral Tribunal, and the Ombudsman's Office, as well as representatives from academia, local governments, and civil society organizations. Each committed to working together to achieve the SDGs.

Among the actions coordinated and developed by Mideplán in the process of implementing the 2030 Agenda, the following stand out:

- The Diagnosis of Public Policies for each SDG and the degree of compliance that the country has with respect to each one
- A reading of the National Plan for Sustainable Development 2015-18 considering the SDGs, as well as their goals, for the establishment of short-term priorities
- SDG awareness-raising workshops for public institutions
- The first voluntary national review before the United Nations

3.3 The role of INEC When Generating the SDGs Indicators

The National Institute of Statistics and Census (INEC), as a statistical advisory body for the implementation of the 2030 Agenda and SDG follow-up, presented the current challenges and capacities around the Global Indicator Framework: 47 percent of SDG indicators have been calculated, 16.8 percent can be calculated but have not yet been, 13.0 percent are not available, and 23.4 percent should be calculated by international organizations. The greatest lack of information resides in the environment category. Additionally, disaggregated data for ethnicity and disability are not available.

INEC's main challenge is the coordination with SEN institutions for the timely and regular supply of the indicators. Immediate tasks are developing the IT system for the SDGs; updating indicators and metadata; defining a formal procedure for updating and reporting the SDG indicators; and preparing an addendum to the National Statistical Plan that will incorporate the statistical strategy for obtaining the SDG indicators. From a strategic standpoint, six areas were identified for the strengthening of INEC and SEN, which are currently being worked on: coordination; innovation and modernization of governance and the legal framework; strengthening of basic statistical activities and programs; the use of administrative records; the broadcast and use of data for easy access; and the availability of information for the entire population.

In the case of the environmental sector, the National Environmental Information System (SINIA) of the Ministry of Environment and Energy, is one of the main instruments in terms of data. It brings together different sources of information, making them available to an array of users. Nevertheless, the system is at an early stage.

3.4 Active Engagement of Private Companies

When it comes to the engagement of private companies in the 2030 Agenda, the business alliance stands out for conducting business in a responsible manner, contributing to sustainable development. The Business Association for Development (AED), conjointly with the Costa Rican Union of Chambers and Associations of the Private Business Sector (UCCAEP), have created a platform to guide companies in the achievement of the SDGs in Costa Rica and to align the business sector with the 2030 Agenda. They point out, however, the need to build the required methodology to define country goals. They consider that, to be able to contribute in achieving them, the business sector should have a clear north star defined by all sectors and that the goals should be challenging, since Costa Rica has already reached some of them and should look for those that represent true challenges.

3.5 Integration of Civil Society in the Process

From the civil society perspective, the effort has focused on building capacity to understand the 2030 Agenda and to be able to execute informed and committed interventions and inputs to optimize Costa Rica's development efforts. They have considered the way to transfer these capacities to a large number of different organizations that make up civil society in order to make a greater contribution to achieving the country goals.

3.6 The Commitment of Leaving No One Behind

The 2030 Agenda and the SDGs include a commitment to leave no one behind. As in many other countries, Costa Rica faces significant challenges in disaggregating data in terms of gender, geographic location, socioeconomic status, ethnicity, disability, etc.

Forum participants highlighted the importance of data disaggregation to be able to diagnose, understand, and identify different populations, particularly the extreme poor and vulnerable groups in harder to reach areas, thus being able to lead and guide policies to assist them.

As a way of addressing inequalities, territorial differences and different groups must be identified to adequately focus efforts, whether through a global or sectoral policy, long-term or timely, and according to different approaches: poverty, income, gender, environmental sustainability, housing, violence, education, food security, etc.

In the specific case of data disaggregation by sex, the most important challenges are in finding the necessary instruments to collect disaggregated information, specialized surveys, and national SDG indicators on gender equality and women's rights. These will give momentum to and create synergies with other planning instruments for gender equality such as CEDAW, Belém Do Pará, regional agreements, PLANOVI, etc.

Regarding issues such as disability and ethnicity, the availability of data on these populations is very scarce, but INEC is developing three initiatives that will contribute to improving the situation: They are designing and executing the National Survey on Disability (2018-2019), redesigning household surveys (2018-2020), and the 2020 Census. As part of these initiatives, measurement methods are discussed and proposed, which may also be applied to administrative records and thereby increase the disaggregated data.

In regards to geographic disaggregation, there are limitations to what the National Statistics System can do, and it should, therefore, be made stronger, so as to be able to generate data from the multiple

administrative records available in the country. In this sense, an executive decree was issued that established the obligation of the SEN institutions to apply the Manual of Geographical Classifications issued by INEC to the production and dissemination of official statistics.

But, above all, public policy should be the target of this differentiated information, to achieve a good result in the application of the 2030 Agenda. Therefore it is fundamental to develop a culture of the use of information for decision-making processes.

3.7 Administrative Records and the Future of Data

Since the beginning of statistics, administrative records have been a fundamental source in the preparation of statistics (e.g. imports, exports, and vital events). However, thanks to the states being developed and to technological modernization, there has been an increase in the number of information records for administrative purposes, which are typical of institutional activities; furthermore, the opportunity has presented itself to access this information with greater ease to generate statistics.

During the Forum, the Statistical Office of Denmark illustrated how they, and other Nordic countries, have migrated toward a statistical system based on administrative records. Denmark highlighted advantages and limitations in relation to censuses and surveys, with a positive balance toward the records. Likewise, they shared the technical, institutional and legal considerations that make it possible to move towards a statistical system like this.

In the case of Costa Rica, the country is believed to possess the potential to move forward toward the statistical system based on records, given its public institutional culture—a registration culture that allows for information in different topics and the use of unique IDs, both physical and legal—as it all allows for data integration and good technological development.

However, limitations were identified that must be overcome in order to be able to leverage these advantages: legal aspects that prevent and constrain the access to these records by statistical offices; lack of knowledge, by record holders and their authorities, about the statistical use of the records under their care, as well as about the public benefit of processing the data and using the resulting statistics for decision-making processes (statistical culture); limited capabilities in data integration, interpretation techniques, and Big Data management; difficulties in systems interoperability; and insufficient technical regulations for the standardization of data, due to the limited coordination mechanisms of the SEN.

There is no doubt that monitoring the 2030 Agenda requires the use of information from administrative records since most of the SDG indicators depend on these sources of information.

3.8 Moving towards Geostatistics

Around the world, the ways of recording and presenting information are being innovated. It has been shown that geographic information systems (GIS) are tools that allow adding new levels of disaggregation when combined with more traditional data sets.

For this reason, these innovations were discussed at the Forum, to prompt thinking about ways for the different sectors and stakeholders to work together and start generating this data.

Peer governments presented innovative geospatial data-generation experiences and how they have contributed to the well-being of citizens.

In the specific case of Costa Rica, the effort made by the National Geographic Institute through their Territorial Integration System (SNIT) was highlighted. It aims to bring together geographic information sourced from different systems and generated by many institutions of the public sector, by means of common standards and duly established protocols. Currently, there are 340 layers of information, which are available freely and at no cost not only for viewing but also for downloading.

The use of geospatial information was previously reserved for a few specialists; currently, all citizens have a smartphone, through which they can access and generate it, hence the need to move toward generating information that is accessible and easily usable by non-specialized users.

Important challenges are IT platforms interoperability, capacity building for creating systems and for the users thereof, and the open sharing of information.

3.9 New Data Sources

Technology and new forms of communication produce a large amount of information that can be used to generate data, which will allow for a better and more timely interpretation of social and economic phenomena. An example of this can be seen in the information generated through social networks, citizens' opinions of utility services, news, etc. An adequate treatment of this information allows for the generation of new data.

The experience in the country is incipient; interesting experiences have been developed at the municipal level and as to generate disaster information. No experiences have been identified in the generation of statistics and official indicators from these new data sources.

Due to the wide access and use of internet and social networks in the country, there is an important potential for generating data that will help guide and monitor development policies.

Therefore, the need to develop methodology and technology skills that can be applied in data generated from new sources of information has been identified, in the public sector, civil society, and the private sector.

3.10 Open Data: A Necessary Condition

Open data is data that anyone can use, reuse, and redistribute freely and is subject only, at the most, to requirements of equal attribution and sharing.

Costa Rica started with the Open Data Initiative in 2012 and, like many other countries, is still in the process of integrating it into its data ecosystem. The National Policy on Open Public Data was established, and national dialogues were implemented to consolidate it, as to position the agenda. Civil society and private companies were involved in this process.

A platform was created that allows for georeferenced inspection of public infrastructure works. The works can be visualized in real time, and it allows the partnership to include information so that they can tell if they are really making the expected progress.

At a high level, it is necessary to have an evaluation framework for open data demand. Gaps must be identified to understand the need for open data provision. Costa Rica is becoming a leader in open data and has an interest in satisfying the data demands of different stakeholders.

From a regional standpoint, the need to engage institutional human capital in the processes of data analysis as key stakeholders who will execute actions on the SDGs has been identified. Awareness should be raised, and discussions must be fostered, on the importance of the digitalization of society and information. It is necessary to bring together specialists and technicians from areas such as computer science and statistics so that, through data, they can build the stage and the conceptual basis for the SDG needs. The implementation of these spaces will promote innovation, addressing not only the what but also the how of an open data ecosystem.

3.11 Establishing a Data Roadmap for Sustainable Development

The Global Partnership for Sustainable Development Data has supported the process of creating a data roadmap in several countries. During the National Forum on Data in Costa Rica, the following countries shared their experiences: Colombia, Mexico, Ghana, and Ecuador.

These countries have built their roadmaps based on their particular situations, and they coincide in certain aspects related to the development of participatory processes and governance, in which different social stakeholders are involved in the definition of their country goals and the alignment of their national plans with the 2030 Agenda; developing IT, analysis, and data interpretation skill sets; SDG indicator diagnostics and identification, in order to spot different public and private information sources (data ecosystems); legal modifications to get access granted to the data and being able to share them adequately; strengthening of SEN coordination; and the construction of strategic partnerships with other countries and institutions, in order to build an administrative data system.

4. Definition of a Data Roadmap for Costa Rica

4.1 Issues to Address

Taking into consideration the many presentations, comments, and interventions of the participants in the Forum, the preparation of a roadmap for generating data for sustainable development in Costa Rica was considered, which would encompass the following aspects:

- Administrative records as a priority source for generating disaggregated data
- Governance and leadership: regulation, coordination, and collaboration for data availability as part of an approach for many stakeholders
- Building capacities and developing the necessary resources to advance toward a data ecosystem
- Data and technology innovation: addressing data gaps, new data sources, and necessary technologies

Forum attendees came to the following main conclusions and challenges on these issues:

4.1.1 Administrative Records and Data Disaggregation

a. Costa Rica's progress in generating new data is considered slow with respect to how other countries in the region are advancing. There are difficulties when sharing data; issues with opportunities (updating the data); incomplete databases; data disaggregation issues (common standards are not used); and lack of regulation regarding whether data may be of public use or not, which is a constraint for sharing data

b. The SEN should be strengthened continually so that it has greater power over the system institutions. This would provide a higher forward momentum.

c. The aspects to be prioritized are Data quality; geographical disaggregation; confidentiality issues; unique ID; increasing statistical culture to share data; inter-agency coordination; establishing basic guidelines for institutions.

d. Regarding whether georeferencing can be the basis of records merging, progress has been made in the creation of the SNIT and the harmonized geographical classification, since disaggregation is such a critical aspect of the information. More work must be done in the standardization of concepts and standards.

4.1.2 Governance and Leadership: Regulation, Coordination, and Collaboration for Data Availability as Part of an Approach with Multiple Stakeholders

Costa Rica possesses a governance model for the 2030 Agenda and a follow-up methodology for the SDGs. Based on this model, an analysis was conducted on what should be done to improve the articulation and the coordination, highlighting the following reccomendations:

a. Establishing the alignment of the SDGs with the National Development Plan, which is under construction, and roll it down to sectoral and institutional plans.

b. Clarifying the responsibility of each ministry in the governance model and creating the parameters of which actions are to be taken, as well as the values that each governmental and non-governmental institution must assume to achieve the SDGs.

c. Further empowering technical governance. Capacity building for the liaisons and technical managers in charge of the SDG indicators, so they can escalate the messages to the institutional authorities.

d. Further working more on how to achieve the coordination of the different stakeholders, both governmental and non-governmental.

e. There should be better coordination and monitoring, by INEC, as the body responsible for providing the information.

f. Identifying a spokesperson, at an institutional level, who will disseminate the relevant political and technical discussions. There is a lack of information within the institutions about the 2030 Agenda, regarding what the SDGs are and what the roadmap for the country is.

4.1.3 Capacity Building and Developing the Necessary Resources to Move Forward Toward a Data Ecosystem

When it comes to capacities and resources, the following conclusions and challenges were highlighted:

a. The stage of owning data is beginning, but further work should be done in developing that culture. This is an opportune time for it.
b. Building capacities to improve data analysis, as well as for the use of data technologies and communication.
c. Further engaging institutional technology units in the development of data.
d. Building capacities for generating indicators beyond data.
e. Raising awareness to identify users' needs and going beyond merely administrative services.
f. Training data collectors on how to improve quality, with statistical and data visualization for other users.
g. Academia must be involved.
h. It is important to achieve greater political commitment.
i. A cultural change is necessary to mitigate fears of data use and sharing.
j. The system's coordination capacity must be strengthened, as well as its stewardship and coordination, since adequate protocols and guides are still missing.

4.1.4 Data and Technology Innovation

The following aspects are important regarding data and technology innovation:

a. Good technological platforms are available, such as georeferencing, but there is a need to use alternative data such as social networks, big data, and mobile phones.
b. There are not enough applications available. Moreover, resources must be used more efficiently; for example, using the cloud to host information that can be shared later through web services.
c. Increasing the use of technology to collect, process, and make information available in a friendly and easy-to-understand manner.
d. Processes must be innovative.
e. Technological progress is not the same for all institutions, which affects the generation of SDG indicators.
f. Spatial data must be readily available, and existing data must be used more efficiently.
g. Creating more synthesized information out of existing data.
h. Improving interagency IT coordination.
i. Knowing the impact of information on decision-making processes. Social networks help a great deal in this regard.

j. There is a lack of leadership in science and technology at public institutions, that will help when defining unique platforms in the country, facilitate interoperability, and lead the IT way.

k. There is a need to provide training on new technologies of high-performance and high-volume data storage, processing, and analysis (digital literacy).

4.2 Proposed Activities for the Roadmap to Sustainable Development Data

Based on the working groups' recommendations, the following activities were identified as priorities to contribute to the generation of data for the measuring of the SDGs.

Some of them are already being implemented, while others will require assistance to channel their development.

Roadmap to Sustainable Development Data

Activity	Objective	Period	Remark	Required Resources
Administrative Records				
1. Creating technical guidelines, that will define the use of common and minimum geo-classifications when generating and communicating statistics.	Producing and communicating national statistics with geographical disaggregation as granular as possible, based on common classifications.	September 16, 2018 - July 22, 2020	NEC has issued technical regulations for the harmonization and use of common classifiers. An executive decree was issued to make it mandatory for the institutions in the National Statistics System to use the common geographic classifications and to communicate the data with geographical disaggregation as granular as possible, within a period not exceeding two years, starting as of July 23, 2018. The activity consists of carrying out information and training activities for the implementation of the classification.	This will run with resources from the INEC ordinary budget.
2. Creating and developing a plan to move towards a Statistical Population Register, based on the integration of administrative records.	Having a plan to move towards a statistical system based on administrative records, which will minimize costs and the burden of requesting information from informants. It will also contribute to the improvement of statistical quality (greater opportunity, as well as frequency and disaggregation of data)	Plan creation: January 2018- February 2019 Plan execution: As of 2019 (final date to be defined according to the plan)	It is a strategic initiative of the National Statistical Plan that responds to the PPI-04 objective. Increasing the statistical operations generated from the use of administrative records. It will be optimal to have a Statistical Register of Population.	Technical assistance (preferably the Statistics Office of Canada). Assistance will be necessary for the formulation phase of the project (preferably in 2018) and for the subsequent support of the implementation.

Activity	Objective	Period	Remark	Required Resources
Administrative Records				
3. Administrative records quality assessment and improvement plans	Having the methodology and tools to evaluate and improve the quality of administrative records for statistical purposes	January 2018 - November 2019	INEC participates in the working group for administrative records of the CEA/ECLAC. The available tools for the evaluation of administrative records (HECRA, CECRA) are being adapted to run analyses and make proposals for improving the administrative records that are necessary to produce statistics.	Technical assistance: the potential cooperation by StatCan for this topic would be a good thing. Technical assistance by or internships in countries in the region that have made progress in the subject, such as DANE-Colombia.
4. A comprehensive reform of the Law of the National Statistics System	Having a regulatory framework which will provide the tools to improve SEN coordination and access to data from different types of sources, including administrative records	May 2017 - June 2019	INEC presented the bill to the Costa Rican Congress in May 2017, and it will probably be approved no later than June 2019.	Ordinary Budget

Activity	Objective	Period	Remark	Required Resources
Governance				
5. Improving the implementation of the SDG governance model in the country	Better articulating both the programmatic elements and the technical-statistical elements in the different model levels	July 2018 - June 2019	Providing greater visibility to the technical and statistical elements of the governance model, so to improve data articulation and broadcast in two instances: within agencies, and between agencies and sectors. In a meeting with the Minister of Planning and the Technical Secretariat of the High-Level Council, regarding the implementation of the 2030 Agenda, the Minister said they were committed to improving this articulation with permanent coordination with INEC and promoting their participation in the different instances of the governance model.	No additional resources required
6. Defining and establishing the strategy and procedures for calculating and updating SDG indicators	Having a formally established procedure for the definition, calculation, and regular updating of SDG indicators	July 2018 - June 2019	INEC defined an internal strategy to update SDG indicator progress. The new release will be ready by the end of 2018 (see attached files). However, there is a need for guidelines and procedures for the National Statistics System, so that the different agencies will be committed to generating and regularly updating the indicators.	External consulting to advise and support the generation of guidelines and procedures. The UN will provide support in the country.

Activity	Objective	Period	Remark	Required Resources
Governance				
7 . Creating an intersectoral committee (government, private sector, civil society) that will coordinate the improvement actions for the availability and use of new data	Integrating the different sectors when generating development data, so to improve the availability of information	July 2018 - March 2019	In a conversation with the Minister of Planning, the agreement was reached to present to the SDGs Consultative Committee the proposed creation of the Technical Statistical Sub-Committee, which will have representatives from the business and civil society sectors. The Minister will present the proposal at the next meeting of the Consultative Committee.	No additional resources required
Innovation and Technology				
8. Training and support from NASA for the calculation of complex SDG indicators that require specialized tools such as satellite images	Capacity building in geospatial information techniques, and support for data generation and the calculation of development monitoring indicators	October 2018 - December 2019	It would be optimal to take advantage of the opportunity to receive technical assistance from a group coordinated by NASA. The goal would be to identify which pending indicators could be monitored with the use and interpretation of satellite images. An initial list of indicators was proposed and included in the Annex to this roadmap. The participation of sectors such as environment, housing, agriculture, and academia, as well as INEC, are part of it.	1. Financing for experts in the country 2. Financing of a 25-person workshop on diagnosis and definition of actions 3. Financing for technical assistance from experts during the development of activities

Activity	Objective	Period	Remark	Required Resources
9. Establishing a web system for the SDG indicators	Creating an IT web system that will allow for the feeding, management, and broadcast of the SDG indicators	September 2018 - June 2019	The implementation of an IT system that will allow for the update of the SDG indicators by source, as well as running users' interactive queries. The system already developed in Mexico might be a good fit. Mexico will provide the source code and corresponding installation manuals in August 2019.	1. Funding for the technical assistance from a specialist from the Institute of Statistics and Geography, INEGI-Mexico, who will train and advise on the installation of the system
10. Training on data generation from innovative sources (social networks) and big data	Building capacities in the country for the exploitation of nine data sources, to generate the information necessary to analyze and monitor development	February 2019 - December 2020	Creating a partnership with academia and other national and international organizations to formulate and develop training plans for officials on data generation from innovative sources	Technical assistance and training about new methodologies and techniques, identification of data sources and opportunities in the country, and the formulation of projects and their development

Attached

Proposed Indicators by Means of Geospatial Techniques.

The initial proposal of indicators to work with the support of a group specialized in geospatial information, coordinated by NASA.

SDGs	Goal	UN Official Indicator	National Indicator	Institution	Unit	Comments / Remarks
6	Target 6.3: By 2030, improve water quality by reducing pollution, eliminating dumping, and minimizing the release of hazardous chemicals and materials, halving the proportion of untreated wastewater and substantially increasing recycling and safe reuse globally.	6.3.2 Proportion of bodies of water with good ambient water quality	The proportion of monitoring sites of surface bodies of water with good ambient quality over the total number of monitored sites.	Ministry of Environment and Energy, Water Directorate	Water Directorate	Using satellite images more effectively to track water ambient quality at different specific monitoring points, currently carried out by the Directorate of Water. Nima Pahlevan of NASA presented a satellite-based analysis tool for rapid evaluation of SDG 6.3.2 by aquatic remote sensing with Landsat images. NASA considers this a useful tool since it can incorporate satellite data into water ambient quality management, supported by the open data policy for NASA/USGS/ESA satellite data, processing capacity, and system architecture for applications on near real-time (NRT).
6	Target 6.6: By 2020, protect and restore water-related ecosystems, including mountains, forests, wetlands, rivers, aquifers, and lakes	6.6.1 Change in the extent of water-related ecosystems over time	To be calculated, information pending	Ministry of Environment and Energy	National System of Conservation Areas	The UN Environment Programme in collaboration with Google, NASA, ESA, the EU JRC, the GEO Secretariat, and other bodies, is generating and validating global data products for SDG 6.6.1 (http://eo4sdg.org/earthobservations-for-sdg6monitoring/). The Global Surface Water Explorer initiative has a database that can be used in one of the components of indicator 6.6.1 (https://global-surface-water.appspot.com/).

SDGs	Goal	UN Official Indicator	National Indicator	Institution	Unit	Comments / Remarks
11	Target 11.2: By 2030, provide access to safe, affordable, accessible, and sustainable transport systems for all, improving road safety, notably by expanding public transport, with special attention to the needs of those in vulnerable situations, women, children, persons with disabilities, and older persons	Proposed Indicator 1: Percentage of people living within 0.5 kilometers or less from public transport [run at least every 20 minutes] in cities with more than 500,000 inhabitants	N/A	INEC	Unit of Cartography	Geo-referenced data is available, as well as the experience of DANE from Colombia.
		Proposed Indicator 2: High-capacity mileage (BRT, light rail, metro) of public transport per person, for cities with more than 500,000 inhabitants	N/A	INEC	Unit of Cartography	
11	11.3 By 2030 enhance inclusive and sustainable urbanization and capacities for participatory, integrated, and sustainable human settlement planning and management in all countries	11.3.1 Ratio of land consumption rate to population growth rate	N/A	Unidentified source		Changes in the biophysical characteristics of natural habitats, which can be measured with data on land coverage (including urbanization), are the best proxy for monitoring pressures on ecosystems and biodiversity.

SDGs	Goal	UN Official Indicator	National Indicator	Institution	Unit	Comments / Remarks
11	11.6 By 2030, reduce the adverse per capita environmental impact of cities, including by paying special attention to air quality, municipal and other waste management	11.6.2 Annual mean levels of fine particulate matter (e.g. PM2.5 and PM10) in cities (population-weighted)	Annual mean levels of fine particulate matter (e.g. PM2.5 and PM10) in cities (population-weighted)	National University [of Costa Rica], School of Land and Sea	Environmental Analysis Laboratory	Using satellite imagery more effectively to track air quality in different territories. Tracking air quality has historically been costly, difficult to implement, and requires delicate equipment. However, progress is being made at an amazing speed to track this vital variable using satellite imagery. This provides an alternative at a lower cost with reliable data to support policy formulation
11	11.7 By 2030, provide universal access to safe, inclusive, and accessible, green and public spaces for women and children, older persons, and persons with disabilities	11.7.1 Average share of the built-up area of cities that is open space for public use for all, by sex, age, and persons with disabilities	NA	Ministry of Housing / INEC		The relationship between land consumption and population growth, monitoring cities in Costa Rica, especially in the Great Metropolitan Area (GAM). The results show that growth in the constructed area and the change of surface water continue to be a challenge. Worldwide, an area the size of the United Kingdom has been covered by buildings since 1990, and a rapid expansion of urbanized areas goes on in some already highly urbanized countries. More information here: http://www.data4sdgs.org/news/applying-earth-observation-data-fill-data-gaps-sdgs-colombia

SDGs	Goal	UN Official Indicator	National Indicator	Institution	Unit	Comments / Remarks
15	15.3 By 2030, combat desertification, restore degraded land and soil, including land affected by desertification, drought, and floods, and strive to achieve a land degradation-neutral world	15.3.1 Proportion of land that is degraded over the total land area	To be calculated, information pending	FAO MINAE (CADETI).	National System of Conservation Areas	Three sub-indicators: • Land productivity • Land cover • Carbon stocks See an example of the Trends.Earth Initiative tracking land change from the NGO Conservation International: https://www.conservation.org/about/Pages/trends-earth.aspx
15	15.4 By 2030, ensure the conservation of mountain ecosystems, including their biodiversity, in order to enhance their capacity to provide benefits that are essential for sustainable development	15.4.1 Coverage by protected areas of important sites for mountain biodiversity	NA	Ministry of Environment and Energy	National System of Conservation Areas	SINAMOCUTE, or Land Use Change Monitoring System, is largely based on the capacity of public institutions and strategic partners to generate geostatistical data that allow for adequate geospatial analysis. It must be standardized, which involves transforming geospatial data into official data. GPSDD can be of great help. The EO4SDGs program seemed interesting. This allows for the translation of data sets coming from satellite images and remote sensors into geospatial information and open data (big data). This can contribute to the generation of accurate data about forest coverage in our country, which needs to be monitored periodically by SINAMOCUTE within the REDD+ National Strategy. It may also be applied to generate useful data and indicators for SINAC on how land use has changed in protected areas or wetlands. It will also be useful to monitor changes in coastal zones at sea level. It can also provide the National Emergency Commission (CNE) with timely information during extreme hydrometeorological events and to monitor natural hazards such as floods or landslides. Finally, this effort to generate geospatial data can help in creating relevant information on land-use planning at the municipal level, providing local governments with up-to-date information on changes in their rural and urban territory.

SDGs	Goal	UN Official Indicator	National Indicator	Institution	Unit	Comments / Remarks
15	15.4 By 2030, ensure the conservation of mountain ecosystems, including their biodiversity, in order to enhance their capacity to provide benefits that are essential for sustainable development.	15.4.2 Mountain Green Cover Index	Mountain Green Cover Index	Ministry of Environment and Energy	National System of Conservation Areas	FAO is the UN custodian for this indicator. New data sets have been made available that allow for some analysis of changes in land cover consistently and comparable at the global scale (OECD). The indicators monitor pressures on ecosystems and biodiversity. Training is required for the Collet Earth software or similar.

Attached 1
Panelists y Moderators

Last name	First name	Institution
Panelists		
Agrawal	Aditya	GPSDD
Aguilar	Marta E.	National Geographical Institute
Alvarado	Marcela	Urbarium/ Consultative committee of the ODS
Álvarez	Erikson	National system of Information and Register (SINIRUBE)
Brenes	Alice	National University
Chacón	Ana Helena	Costa Rica
Cordero	Juan Manuel	Office of the Ombudsman
Crowell	Jamison	Observatory of Opened Information
Cuéllar Rio	Manuel	National Institute of Statistics and Geography-Mexico (INEGI)
Firth	Rebecca	Humanitarian OpenStreepMap
Flores	Ana Lorena	Supreme Electoral Tribunal
Garrido	María del Pilar	Ministry of National Planning and Economic Politics
González	María Elena	National Institute of Statistics and Census-Costa Rica
Lemaitre	Roberto	Ministry of Science and Technology (MICIT)
Linares	Ericka	Consultative committee of the ODS
Méndez	Floribel	National Institute of Statistics and Census-Costa Rica
Merino	Leonardo	State of the Nation Programme
Monett	Álvaro	CEPAL
Monge	Rafael	CENIGA- Ministry of Environment and Energy
Mora	Sofía	National Institute of Statistics and Census-Costa Rica
Mora	Edgar	Curridabat's Municipality
Moreno	Sandra Liliana	DANE-Colombia
Murillo	Hugo	Ministry of National Planning and Economic Politics
Ohuruogu	Hugo	GPSDD
Palma	Angélica María	DANE-Colombia
Ramírez	Fernando	National Institute of Statistics and Census-Costa Rica
Rivera	José Pablo	Telefónica Company
Robles	Mario	Ministry of National Planning and Economic Politics
Rodríguez	Fredy	Cepei
Sánchez	Olga Marta	Ministry of National Planning and Economic Politics
Seidu	Omar	Statistical Service of Ghana
Seitz	Kathryn	Digital Globe
Song	Sun Hwa	GPSDD

Last name	First name	Institution
Moderators		
Stockins	Pauline	CEPAL
Suasnavas	Alexandra	National Institute of Statistics and Census-Ecuador
Taccari	Daniel	CEPAL
Truszczynski	Maciej	Statistics Denmark
Van Lierde	Astrid	Dalberg Data Insights
Von Marschall	Carlos	Ministry of National Planning and Economic Politics
Worthington	Rob	Kwantu
Yañez	Andrés	CEPAL
Young	Andrew	New York University
Zuñiga	Ana Gabriel	Presidency of Costa Rica
Adieno	Davis	GPSDD
Girot	Pascal	University of Costa Rica
Gómez	Agustín	National Institute of Statistics and Census-Costa Rica
Morales	Natalia	State of the Nation Programme (National Council of Rectors -CONARE)
Ortiz	Alonso	GPSDD
Rodríguez	Fredy	Cepei
Shackelford	Alice	United Nations System in Costa Rica
Solano	Elizabeth	National Institute of Statistics and Census-Costa Rica
Umaña	Jorge	Organization of American States

Attached 2

Participants

Last name	First name	Institution
Argüello	Giselle	National Statistics and Census Institute-Costa Rica
Barboza	Greivin	Ministry of National Planning and Economic Politics
Barrantes	Mariela	Ministry of National Planning and Economic Politics
Brenes	Alex	Ministry of National Planning and Economic Politics
Chacón	José Joaquín	Directorate of Water
Chaves	Aida	National Institute of Statistics and Census-Costa Rica
De Cuéllar	Manuel	National institute of Statistics and Geography-Mexico (INEGI)
Delgado	Óscar	Ministry of Justice
Espinoza	Karla	Telefónica Company
Gómez	Nathalie	Ministry of National Planning and Economic Politics
González	Doris	National Institute of Statistics and Census-Costa Rica
Güell	Douglas	National Institute of Statistics and Census-Costa Rica
Jiménez	Carlos	Costa Rican Electrical Institute
Jiménez	Jonathan	National Geographical Institute
Lugo	Keila	Costa Rican Social Security Fund (CCSS)
Madrigal	Frinie	National Institute of Statistics and Census-Costa Rica
Mata	Alberth	National Emergency Commission
Mata	Lina	Ministry of National Planning and Economic Politics
Merino	Leonardo	State of the Nation Programme
Mora	Antonio	National Institute of Statistics and Census-Costa Rica
Morales	Natalia	State of the Nation Programme
Navarro	Odette	National Institute of Statistics and Census-Costa Rica
Pereira	Guiselle	Ministry of Science and Technology (MICIT)
Picado	Carlos	National Emergency Commission
Quirós	Diego	Central Bank of Costa Rica
Ramos	Pilar	National Institute of Statistics and Census-Costa Rica
Reyes	Llocelin	National Institute of Statistics and Census-Costa Rica
Rodríguez	Carolina	Inter-American Development Bank
Rodríguez	Ghiselle	Ministry of Agriculture and Livestock (MAG)
Rodríguez	Nancy	National Council of Rectors
Ruiz	Catalina	National Institute of Statistics and Census-Costa Rica
Salazar	Lucrecia	Central Bank of Costa Rica
Sánchez	Lilliana	UCCAEP
Soto	Susana	Opening Data
Valle	Manuel	PICAPP
Valverde	Miriam	Ministry of Agriculture and Livestock (MAG)
Vargas	Diego	Ministry of Science and Technology (MICIT)
Venegas	Braulio	UCCAEP
Zeledón	José Miguel	Directorate of Water