KEY NATIONAL INDICATORS:
GUIDE TO TERMS AND CONCEPTS

The development of key national indicators can help nations to measure progress toward desired national outcomes, assess conditions and trends, and help communicate complex issues. Key national indicators can be seen as part of efforts to align the programs and policies of governments with the results—a healthy and educated population, adequate jobs and housing, a healthful and sustainable environment--that citizens care about. For Supreme Audit Institutions (SAIs), key national indicators represent an important tool to help promote transparency and accountability in government.

SAIs can contribute to the use of KNIs in a wide variety of ways, including validating the reliability of indicators and incorporating them into their performance audits. KNIs can also support the work of audit organizations by providing widely-accepted standards, goals or criteria against which to assess government performance.

At its first meeting in Moscow in May 2008, INTOSAI's Working Group on Key National Indicators agreed to develop a glossary of key terms, recognizing the value of a standard terminology for SAIs interested in the design, development, adoption and auditing of KNIs. The United States Government Accountability Office (GAO) agreed to develop the glossary in partnership with the Organisation for Economic Cooperation and Development (OECD), which had begun its own efforts to develop a glossary of terms.

In contrast to a conventional glossary, this document is intended to be a dynamic guide to terms and concepts. Although the guide draws largely from GAO and OECD work, it has benefited from the input of several members of the KNI Working Group. In future, the guide will be regularly updated to reflect new developments in this evolving field.

What Is Measured?

Progress: In simple terms, progress means "life getting better for a society"--as defined by members of that society. Progress may also be defined as success in attaining or nearing the goals that are established through a political process or other type of civic engagement. Progress is multi-dimensional and typically includes economic, social and environmental factors along with other areas that people see as important to life (for example, culture or the quality of governance). Although progress implies change for the better, any assessment of progress must also include assessment of regress.

Well-being: Assessments of societal progress often focus on the well-being of society, or the condition or state of being well, contented and satisfied with life. Dictionary definitions differ, but notions of prosperity, health and happiness generally figure. **Quality of life** is sometimes also used to indicate the condition of social well-being.

Subjective well-being is a measure of how people feel about their lives or aspects of their lives. It refers to a broad category of phenomena that includes people's emotional responses, domain satisfaction, and global judgements of life satisfaction.

Sustainable Development: According to the OECD, sustainable development is defined as a development path along which the maximisation of human well-being for today's generations does not lead to declines in future well-being.

Goals here refer to the long-term aims of society, usually expressed in general terms. The term is often used interchangeably with **objective**, although objectives can also be considered subsets of a goal that can be partly achieved during a planning period. A distinction is sometimes made between **primary** and **secondary objectives**, with primary objectives relating directly to an outcome—for example, improving public health—and secondary objectives being one of the means of achieving the primary objective—in this case, for example, improving public health by providing safe drinking water.

In addition to national and subnational goals, a number of countries report on international goals set in international agreements, such as the Kyoto Protocol and the UN Millenium Development Goals.

A **target** is an intermediate result towards the achievement of goals and objectives. A target generally has a time horizon and is frequently, although not always, quantified. A target related to the example above might be to ensure that a certain percentage of the population has access to safe drinking water by the year 2012. Frequently, targets follow a framework called SMART: Specific, Measurable, Achievable, Results-oriented and Time-bound.

A **strategy** is a course of action, or the means by which to achieve goals and objectives. Developing a strategy includes identifying suitable points of intervention and ways of ensuring the involvement of appropriate entities, considering the range of political, social, economic, managerial and technical factors that affect the strategy and defining the possible constraints and ways of dealing with them.

Capability, in this context, refers to the ability to attain defined goals. Measuring progress through the assessment of development capabilities involves assessment of the effectiveness of the entire system of managing social and economic development, including its objectives, processes and systems.

Capabilities, in turn, may be disaggregated into key material and non-material assets. **Assets** include material values, money, debt claims etc. from which an organization expects economic benefits in the future. **Material assets** are those whose value is largely defined by physical features. **Non-material assets** include an organization's human capital and other non-monetary assets.

What Are Key National Indicators?

An **indicator** is a quantitative or qualitative statistic or measure that provides information on the state of, or change in, a system over time, at either a national, regional, or local level. The unemployment rate, infant mortality rates, and air quality indexes are examples. Some indicators may be direct, that is, they measure what they say, for example, unemployment rates. Other indicators may be indirect, or proxies. The number of patents granted, for example, may be a proxy for measuring the degree of inventiveness. Some sources include

- Hundreds of indicators are used around the world, many of which are published by OECD, the United Nations and the World Bank, among other organizations. Examples:
    - The OECD Factbook comprises a set of over 100 economic, social and environmental indicators and may be viewed as a comprehensive reference (www.sourceoecd.org/factbook.)
    - The Millenium Development Goals were developed by United Nations Member States to reduce poverty, hunger, and disease, among other things. About 60 indicators were developed to track progress against these goals. (See www.mdgs.un.org/unsd/mdg/Host.aspx?Content=Indicators/OfficialList.htm.)
    - The international Public Expenditure and Financial Accountability Program, supported by the World Bank, the European Commission and other government organizations, developed a framework for assessing country public financial management that includes a set of 28 high-level indicators related to budget credibility, execution, and external audit, among others (See www.pefa.org/about_pefamn.php.)

Key national indicators, sometimes referred to as **headline indicators,** define a core set of information about the progress and position of a nation, selected from a range of possibilities. There is no "right" number of indicators; how the balance is struck between simplicity and breadth of coverage can vary widely. But key national indicators are generally limited to what society considers the "vital few." While an indicator set can include a few to dozens of indicators, it is not intended to be exhaustive but rather, to provide a summary picture of those conditions considered to be most important for the progress of a nation.

As is the case in defining progress, the process of selecting key national indicators is inherently political, representing the aspirations and values of society.

Input/Output/Outcome Indicators: National indicators can represent a societal input, output or outcome.

- Outcome indicators measure change that matters directly to a society, such as educational attainment levels.
- Output indicators measure change in the volume of products or services delivered, such as the number of arrests or enforcement actions taken. These types of indicators are important because outputs are usually produced in the hope of changing an outcome.
- Inputs represent the level of resources--material, energy, effort and money-- used to produce an output.

Thus, an input might be the total spending on new hospitals in a year, the output might be the number of new hospital beds created, and the outcome might be the infant mortality rate. Although inputs produce outputs that are intended to change outcomes, most outcomes depend on

multiple factors. In order to assure the attainment of desired outcomes, it is important to understand and validate the relationship of inputs to outputs and of outputs to outcomes.

A composite indicator is built from a collection of individual indicators that are then compiled into a single index, on the basis of an underlying model of the multi-dimensional concept that is being measured. A composite indicator measures multi-dimensional concepts (e.g. competitiveness, the performance of an economy or environmental quality) which cannot be captured by a single indicator. Some examples include:

- The Human Development Index, developed by the United Nations Development Program, measures development by combining indicators of life expectancy, educational attainment and income into a composite human development index.
- The OECD composite leading indicators (CLIs) are designed to provide early signals of turning points in economic activity. CLIs are calculated by combining together component series that cover a wide range of key short-term economic indicators, including, for example, data related to economic activity, housing permits, production, and trade

- A **footprint** is a composite indicator based on a calculation of the sum of all resources required to provide specified goods and services. The Ecological Footprint by the World Wildlife Fund, for example, calculates how much productive land and sea is needed to provide the resources, such as energy, water and raw materials, we use in everyday lives. It also calculates the emissions generated from the oil, coal and gas we burn, and it determines how much land is required to absorb our waste.

Pressure-State-Response indicators provide a framework for the presentation of indicators (often environmental) arranged according to the pressures that human activities exert on an area of concern, the state of the problem, and of society's responses. Examples include: the amount of C02 released into the atmosphere each year (pressure), average temperature rise (state); money spent combating adverse weather (response); or numbers of people smoking cigarettes (pressure); incidence of lung cancer (state); money spent on anti-smoking campaigns (response).

Performance measures are indicators, statistics or metrics that are used to gauge the performance of an activity, process, or operating entity. Performance measures are also the reference markers used to measure whether a goal is being achieved. To be able to assess progress toward the achievement of performance goals, the measures used must be valid and reliable.

- In this context, **reliability** refers to the precision with which performance is measured.
- **Validity** is the extent to which the measure adequately represents actual performance.
- In order for measures to be valid and reliable, the data on which they are based must be free from significant error, especially bias.

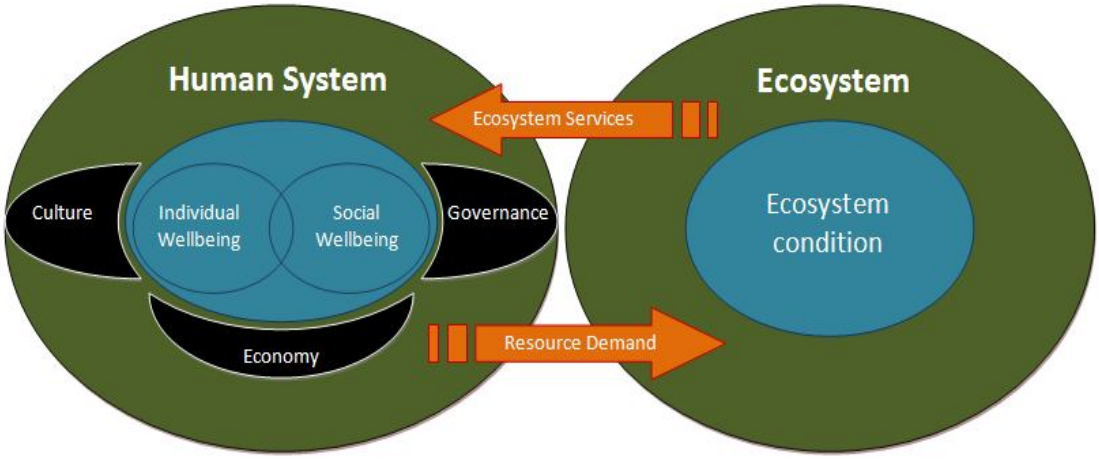
Performance management is a process of developing and using information on performance to achieve a desired level of performance. Typically, a performance management system consists of several elements:

- establishing the desired level of performance by setting goals and targets
- measuring performance through the use of one or more indicators
- reporting or communicating performance information
- comparing actual performance to the desired level of performance

- assessing the effectiveness of strategies in achieving goals and targets and taking any necessary corrective actions

Dimensions and Domains: Progress can be measured along a number of different dimensions, which can be grouped into a smaller number of domains. Each dimension reflects a basic kind of end or outcome, such as economic growth or human endeavour (eg, education, health) or characteristics of our environment (eg, air quality). A group of related progress dimensions can be placed together in a domain (or pillar). For example, indicators of national income and national wealth might both be grouped under the economy domain.

Frameworks for indicators display the choice of domains and dimensions to be included in an indicator set and how they relate to one another. Frameworks are a tool to focus and clarify the scope of an enquiry. They facilitate these tasks by delineating the dimensions used to build up a particular concept and by creating a logical structure that illustrates how these dimensions relate to one another. One type of framework, to measure the progress of societies, is illustrated below:



In this example, the framework is made up of two systems: the Ecosystem and the the Human System. The Human System is comprised of four domains: Human Well-being, Economy, Governance and Culture. The key dimensions of the Ecosystem Condition domain include land, freshwater, oceans and seas, biodiversity, and atmosphere. Within the Human Well-being domain, key dimensions include physical and mental health, knowledge and understanding, work and leisure, material well-being, freedom and self-determination, and interpersonal relationships. The economy domain has dimensions of national wealth and national income . The Governance domain includes human rights, civic engagement, security and crime, and access to services. The Culture domain includes cultural heritage and arts and leisure as its two key dimensions.

What Are Key National Indicator Systems?

A key national indicator system, or a **suite of indicators**, is an organized effort to assemble and disseminate a group of indicators that together tell a story about the position and progress of a

nation. Indicator systems collect information from suppliers (e.g., individuals who respond to surveys or institutions that provide data they have collected), which providers (e.g,, a national statistical agency) then package into products and services for the benefit of users (e.g, leaders, researchers, planners and citizens.)

A key national indicator system generally includes social, economic and environmental indicators of a nation as a whole to provide an overall picture of the country's progress and well-being. While many countries have indicators in one or another of these areas, a system of key national indicators can provide a comprehensive and balanced view, to help to ensure that one dimension of progress is not advancing at the expense of another.

Topical indicator systems involve specific or related sets of isses, such as health, education, public safety, employment or transportation. They also form the foundation of information resources for the general public, the media, professionals, researchers, institutions, leaders and policymakers. Some examples:

- OECD Social Indicators: OECD's *Society at a Glance* reports present a variety of social indicators that provide perspectives on self-sufficiency, equity, health, and social cohesion. (www.oecd.org/document/24/0,3343,en_2649_34637_2671576_1_1_1_1,00.html)

Comprehensive key indicator systems pull together only the most essential indicators on a range of economic, environmental and social and cultural issues, as opposed to a group of indicators on one topic. Comprehensive systems are only as good as the topical systems they draw from. They can help to identify a jurisdiction's significant challenges and opportunities, highlight their importance and urgency, inform choices regarding the allocation of scarce public resources, assess whether solutions are working, and make comparisons to other jurisdictions. Some examples:

- German System of Social Indicators: Monitors status and changes in living conditions and quality of life, covering 14 domains, including economic, environmental, social and cultural. Includes almost 400 indicators and 89 key indicators.
- UK Sustainable Development Indicators: Measures progress toward the government's sustainable development strategy in the areas of social progress, economic growth and environmental protection. Includes 15 headline indicators to give a broad overview and 132 core indicators to focus on specific issues and identify areas for action.
- European Structural Indicators: Indicators track progress toward strategic goals for the economic, social and environmental renewal of Europe, as detailed in the Lisbon Strategy. The indicator system covers employment, innovation and research, economic reform, social cohesion and the environment. The EU reports on about a dozen headline indicators, each consisting of a number of other supporting indicators.

Selecting indicators for an indicator system can involve different approaches:

- A bottom-up approach works from the grassroots, causing a decision to arise from the joint involvement of a large number of people working together.
- In a top-down approach, an executive decision-maker or body chooses the indicators, although the choice of indicators might be based on consultation with others.

A Reference Model is a unitized reflection of standard elements and their relationships and logical interconnections. In this sense, a system of key national indicators may be considered a reference model for measures of progress and position. A reference model allows assessment of KNIs independent of the selection of indicators, such as GDP or Welfare Index.

What is Data Quality?

Data are specific quantitative and qualitative facts and figures obtained in the course of information collection.

Data quality can be defined as "**fitness for use**," a concept that includes a number of attributes that contribute to the usefulness of the data from the perspective of the users:

- **Relevance** refers to the degree to which the data serves to address the purposes for which they are sought. Measuring relevance requires identification of user groups and their needs, both of which can change over time. Relevance may be indirectly assessed by determining whether there are processes in place to determine the views of users and the uses they make of the data.
- **Accuracy** is the degree to which the data correctly estimate or describe the characteristics that they are designed to measure. It refers to the closeness between the values provided and the (unknown) true values. In general, the accuracy of the data is measured or described in terms of the error, or the potential significance of the error.
- **Credibility** of data refers to the confidence that users place in data products based on their perceptions about the producer of the data. One important aspect is trust in the objectivity of the data, which are perceived to be produced professionally in accordance with appropriate statistical standards, with transparent policies and practices, and free of manipulation or political pressure.
- **Timeliness** of data reflects the length of time between their availability and the event or phenomenon they describe, considered in the context of the time period that permits the information to be of value and still acted upon.
- **Accessibility** reflects the ready ability to locate and access data, including the suitability of the form in which the data are available, the media of dissemination, and the availability of metadata and user support services.
- **Interpretability** reflects the ease with which the user may understand and properly use and analyze the data. The degree of interpretability is largely determined by the adequacy of definitions of concepts, target populations, variables and terminology underlying the data.
- **Coherence** of data reflects the degree to which they are logically connected and mutually consistent. This implies that the same term should not be used for different concepts or data items without explanation and that variations in methodology that might affect data values should likewise not be made without explanation.

Verification is the checking or testing of performance data to reduce the risk of using data that contain significant errors.

Validation is the testing of data to ensure that no error creates significant bias, that is, would affect conclusions about the extent to which performance goals have been achieved.

Data limitations are known problems with the data sources or the data that may be identified by program evaluations, independent audits, information systems analyses, etc. If significant, these limitations could lead to inaccurate assessment of goal achievement. Such limitations might include:

- inconsistencies in data collection from location to location, from one time period to another, or from one data source to another, when data from more than one source must be combined to create a performance measure. Inconsistencies can arise when standard procedures are not used or followed.
- inaccuracies due to imprecise measurement and recording
- incomplete data

What Role Can SAIs Play in the Development, Assessment and Use of Key National Indicator Systems?

Although SAIs have encouraged the development of key national indicator systems, they have generally avoided involvement in the selection of indicators in order to retain their independence and any possible loss of credibility if the indicators are viewed as inaccurate or inappropriate. To guard against these risks, SAIs can take a number of steps, including limiting their involvement in design to technical assistance and performing an auditing role after the indicators are developed.

Beyond development, SAIs can play a number of roles in supporting and using key national indicator systems in audit work. SAIs have played a role in assessing the reliability and relevance of key national indicators and have used key national indicators as a basis for assessing government performance. The following questions may serve as a general guide for SAIs to consider as matters for audit:

- Is there a system of key national indicators in place?
- Is the KNI system linked with the budget development process?
- Are key national indicators compatible with macro-economic indicators?
- Are key national indicators used to report on progress towards international goals?
- Are different indicators used at the national and sub-national levels?
- Are the key national indicators linked with other government indicators and are they harmonized?
- Are there systems in place to monitor achievement of government policies?
- How do the national indicators relate to goals or objectives established in legislation?
- Are the national indicators valid and reliable measures of national goals? Do they reflect objectives of legislation? Are there well-established relationships between national goals and the indicators related to them?
- To what extent are government programs contributing to national goals, as measured by key national indicators?

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