



In-Depth Country Assessment of Agricultural Statistics Capacity in Indonesia

*(An implementation of the Global Strategy to
Improve Agricultural and Rural Statistics)*



Government of Republic Indonesia



**Government of Indonesia
BPS Statistics Indonesia**



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Improve Agricultural and Rural Statistics)*

March 2015

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ACRONYMS

BAPPENAS	National Development Planning Board
BPS	Badan Pusat Statistik (Statistics Indonesia)
CAQ	Capacity Assessment Questionnaire
FAO	Food and Agriculture Organization of the United Nations
IdCA	In-depth Capacity Assessment
MoA	Ministry of Agriculture
NLHS	National Livestock Household Survey
NSDS	Rancangan Teknokratik RENCANA Strategis (National Statistical Development Strategy)
NSS	National Statistics System

FOREWORD

BPS Statistics Indonesia, the Ministry of Agriculture, Ministry of Marine Affairs and Fisheries, Ministry of Environment and Forestry are pleased to present the In-depth Country Assessment Report (IdCA 2015). The IdCA report is deemed very essential as it identifies areas where improvements are needed to agriculture, fisheries, forestry and rural statistics and therefore provides the basis for developing a Strategic Plan for Agricultural and Rural Statistics (SPARS) for Indonesia.

The statistical system has come a long way in terms of institutional settings, coverage and availability of data. However, the reliability, timeliness and adequacy of some of the data have remained to be improved. To formulate effective policies, good data support systems are essential. Timely and reliable data and information help us understand critical issues, design appropriate interventions and efficiently monitor program and policies.

This IdCA report provides an insight into the problems in the domain of agriculture fisheries, forestry, and rural statistics in the country and pinpoints the inputs, processes and output for bringing improvement in them. It also provides a benchmark for monitoring and evaluation of the impact and outcome of the support to be provided for improvement in the system in the next 5 years.

The IdCA report is the result of intensive studies conducted using FAO's standard methods of country assessment. Slight modifications were however, integrated into the study to fit our own context and address our needs. Intensive deliberations took place over the findings and recommendations of the IdCA report among stakeholders.

BPS Statistics Indonesia, the Ministry of Agriculture, Ministry of Marine Affairs and Fisheries, Ministry of Environment and Forestry would like to thank the Food and Agriculture Organization of the United Nations for its generous support. We also acknowledge the unwavering hard work and contributions put in by concerned stakeholders in bringing out this report.

This assessment report is intended to be used as an authentic reference document by the relevant government agencies, the international community and other stakeholders. It is our hope that this report will lead to development of practical strategic plans and contribute to informed decision making towards poverty alleviation and improving food security in the country.



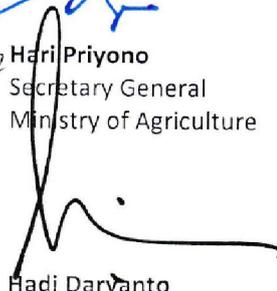
Suryamin
Chief Statistician
BPS-Statistics Indonesia



Hari Priyono
Secretary General
Ministry of Agriculture



Sjarief Widjaja
Secretary General
Ministry of Marine Affairs and Fisheries



Hadi Daryanto
Secretary General
Ministry of Environment and Forestry

SUMMARY AND RECOMMENDATIONS

Methodology of the Annual Food Crops, Estate Crops, Horticulture, and Livestock Surveys

There is an urgent need for the methodology of these key annual survey programs to be reviewed and Statistics Indonesia invited to replace them with objective probability samples based on sound statistical practices. Of primary importance is the need to revise the Food Crops Survey methodology. Revising the program will however, clearly require agreement on the proposed changes by all the current partners, Local Government Authorities, Ministry of Agriculture, and the BPS.

Responsibilities for Agriculture, Marine and Fisheries, and Forestry Statistics in Indonesia

Statistics Indonesia, Ministry of Agriculture, Local Government Authorities, Ministry of Marine Affairs and Fisheries and the Ministry of Environment and Forestry all have authority to collect and compile statistics but only Statistics Indonesia has the authority to publish and disseminate Government official statistics.

Cooperation between Statistics Indonesia, the Agriculture, Fishing and Forestry Ministries and Local Government Authorities

The collaboration between Statistics Indonesia, the Ministry of Agriculture, The Ministry of Marine Affairs and Fisheries, the Ministry of Environment and Forestry, and Local Government authorities is good. The Local Government Authorities do however value their current role in establishing food, crop horticulture and livestock estimates at the District and Sub-District level and may not welcome the introduction of probability sampling, a methodology that will reduce their influence and role in establishing the annual estimates.

Managing Data Quality at Statistics Indonesia

Statistics Indonesia operates, by any standard, a world-class statistical program based on sound statistical methods and practices. Statistics Indonesia recognizes that confidence in the quality of the data is critical to its reputation as an independent, objective source of trustworthy information.

The current methodologies used for the annual statistics programs such as livestock produced by households surveys, the harvested area of Food Crops (paddy rice, corn, soybeans, etc.), smallholders Estate Crops production, and Horticulture conducted by the Ministry of Agriculture are regrettably not subject to the methodological rigor and sound statistical practices that data users expect from Statistics Indonesia.

Financial, Human, and Physical Resources for Agriculture Statistics

While Statistics Indonesia would benefit from increased funding the resources it has are delivering a broad statistical program using sound statistical methodology. Statistics Indonesia offices, even in the Districts, are well equipped with telephones and Internet access. Every employee has a computer, and Statistics Indonesia field staffs have at least a motorcycle for transportation.

It appears that resources at the headquarters, Provincial and District offices of the Ministries of Agriculture, Fishing and Forestry are also reasonably well funded and equipped with communications, computers, and transport.

The situation with the Local Government Authorities is significantly different. There are few office buildings for the Agriculture Officers employed by the Local Government Authorities, and responsible for collecting the annual Food Crop, Estate, Horticulture, and Livestock data for the

Ministry of Agriculture. The Local Authority's Agriculture Officers are also not provided with computers, transportation or other equipment, and they are poorly paid, trained, supervised, and often inexperienced.

Human Resources Training at Statistics Indonesia

BPS is one of the very few statistical offices that have established an "Institute of Statistics". The Institute, established in 1958, offers a four-year certificate program in statistics including sample design and selection and Statistics Indonesia hires its own professionals (statistical officers) almost exclusively from the Institute.

The Institute's programs are open to Indonesians as well as applicants from other countries and a competitive process is used to select applicants for the program and Statistics Indonesia is given the first rights to refusal in making employment offers to the graduates. The number of students at the Institute in the 4-year program total approximately 1400 and the Institute graduates about 350 students each year.

Fishery Statistics

There is a need to undertake a comprehensive review of the fishery and aquaculture surveys, which for the most part are conducted by the Ministry of Marine Affairs and Fisheries. The Ministry is encouraged to invite Statistics Indonesia to assist with such a review, the objective being to establish the surveys on a sound statistical foundation.

Forestry Surveys

Forestry surveys have been carried out by Statistics Indonesia with the most recent being completed in 2010. Low response rates are a major issue.

There is a need to establish a sound statistical approach in order to estimate the cost structure of timber production that take several years of production process.

Capacity Assessment Questionnaire (CAQ)

The *FAO Capacity Assessment Questionnaire* did not perform particularly successfully for Indonesia and understates the complexity of the country's statistical programs. The CAQ information is limited by the comprehensiveness of the questions. Information is not normally provided for questions that are not asked. The difficulties with the CAQ in Indonesia may be a consequence of the division of responsibilities between the BPS and the line Ministries for Agriculture, Fisheries and Forestry and between the various levels of Government. Local Government Authorities for instance, are responsible for the data collection for the annual crop and livestock statistics programs. The CAQ did not ask about the role of Local Government Authorities and so the information was not provided.

1. INTRODUCTION

1.1 Objective of the Assessment

The objective of the in-depth assessment is to (1) provide an in-depth assessment of the country's capacity for collecting, compiling and disseminating reliable and timely agriculture, fishery, forestry, and rural statistics, and (2) confirm, amend or clarify the information provided in the initial *Country Assessment Questionnaire*.

1.2 Background and Scope of the In-Depth Capacity Assessment (IdCA)

The assessment is a cooperative effort of the Government and FAO, and is the basis of a detailed diagnostic report for developing a Strategic Plan for Agriculture and Rural Statistics (SPARS). The assessment is an effort to assess the statistical capacity and state of the (1) institutional infrastructure, (2) human, financial and technical resources, (3) statistical methods and practices and (4) the availability and accessibility of the "core data" required for an integrated and sustainable agriculture and rural statistics system. These areas of assessment are derived from the Country Assessment Framework (CAF) developed by the Global Strategy¹ to establish a baseline on a country's statistical capacity to produce agricultural and rural statistics.

In Indonesia's submission to the Regional Steering Committee to express its interest in participating in the Regional Action Plan, it identified the production of domestic food crops and the associated statistics as playing a strategic role in Indonesia. Improving the quality and timeliness of the annual agriculture statistics is a high priority Government objective.

1.3 Indicators of Country Capacity

To complement this assessment, a set of country capacity indicators (CCI) was developed in conjunction through the CAF² to monitor the development of statistical capacity at the country level more objectively. These indicators, which span four dimensions and twenty-three elements (**Annex IV**), are based on information collected during the in-depth assessment using a Country Assessment Questionnaire.

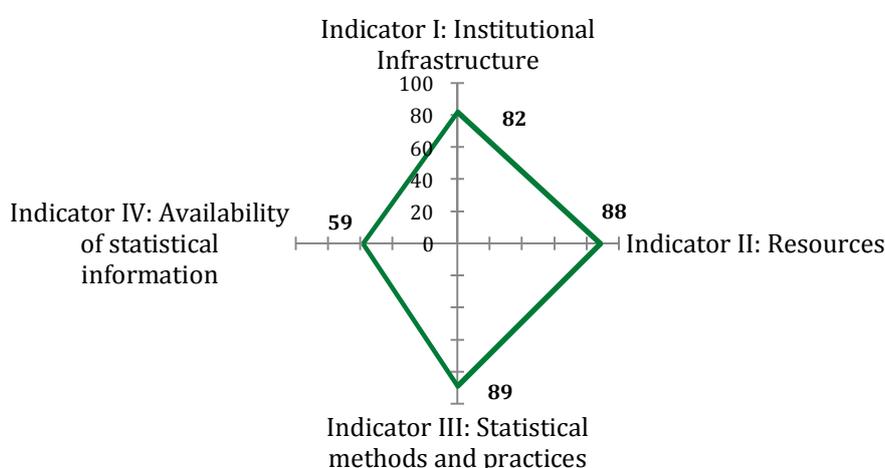


Figure 1. Four dimensions of country capacity in Indonesia, 2014
Note: A score of 100 represents a perfect representation of the defined criteria

¹ Framework for Assessing Country Capacity to Produce Agricultural and Rural Statistics vol. 1a, FAO, 2014.
² Framework for Assessing Country Capacity to Produce Agricultural and Rural Statistics vol. 1b, FAO, 2014.

This baseline assessment under the CAF fielded responses from Statistics Indonesia, and relevant line ministries from agriculture, fisheries, and forestry - representing the major producers of agricultural and rural statistics in the country. Responses received fed into the calculation of a complete set of indicators covering four dimensions and 23 elements outlined in **Annex IV**. While it is noted that scope of the CAQ was not particularly successful for Indonesia due to the complexity of the NSS, the indicators did provide an overarching baseline on which the in-depth assessment could expand upon.

Of the four dimensions of country capacity, Indonesia scored strongest in its state of institutional infrastructure (figure 2), resources (figure 3), and statistical methods and practices (figure 4) – reflecting a *world-class* statistical program that is supported by a clear legal framework, access to and efficient utilization of financial and human resources, and well-defined methodologies for producing robust estimates. Despite this relative strength, the framework also identified weaknesses in Indonesia’s state of available statistical information (figure 5), where the quality of agricultural and rural indicators being reported were deemed *unacceptable*.

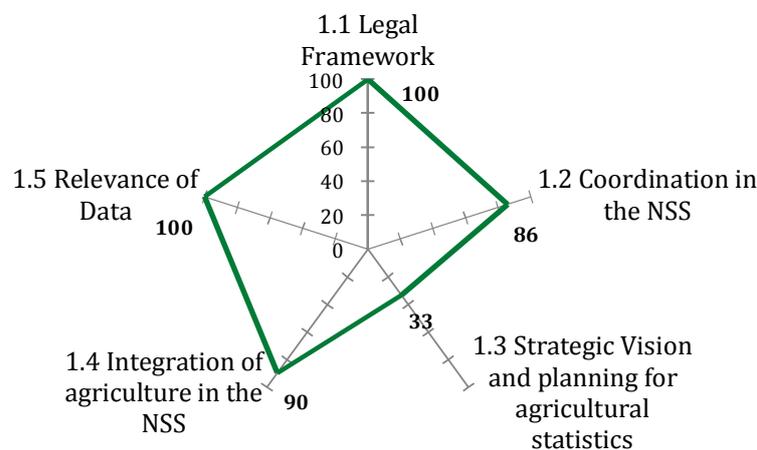


Figure 2. Five elements of Institutional Infrastructure in Indonesia, 2014
 Note: A score of 100 represents a perfect representation of the defined criteria

Although the state of Indonesia’s institutional infrastructure was deemed strong on a broader level, identified weakness were observed in the element of strategic vision and planning for agricultural statistics, where the scope of the “the Strategic Plan for Statistical Development” under the BPS is considered to be limited - omitting key statistical programs for *fisheries and forestry*.

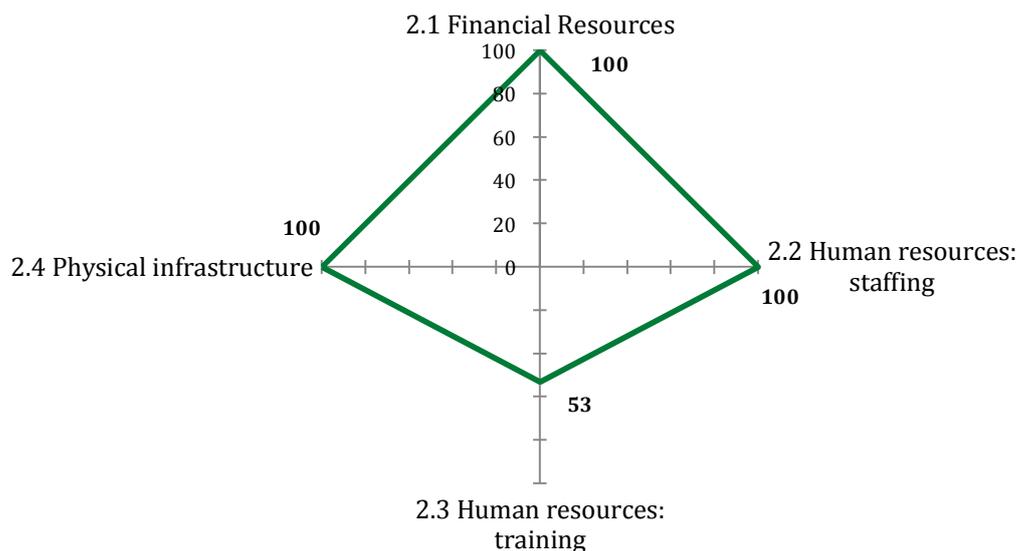


Figure 3. Four elements of Resources in Indonesia, 2014
 Note: A score of 100 represents a perfect representation of the defined criteria

On the state of available resources for the production of agricultural and rural statistics, Indonesia showed strength in the both the availability of both financial and human resources reflecting a statistical program that is reasonably well funded with a reasonably large number of staff distributed throughout the country. Although the framework identified a possible weakness, in the human resource training, it was noted during the in-depth assessment that Indonesia does possess an institutionalized training program offering a four-year certificate program in statistics - feeding almost exclusively into BPS Statistics Indonesia.

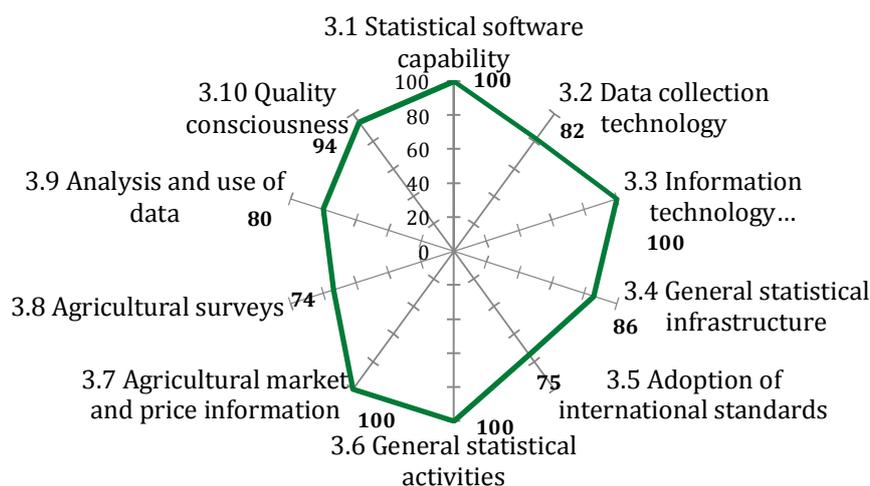


Figure 4. Ten elements of Statistical Methods and Practices in Indonesia, 2014
 Note: A score of 100 represents a perfect representation of the defined criteria

On the state of statistical methods and practices, the overall statistical system is strong across all relevant elements with some noted weaknesses in the availability and coverage of agricultural surveys and the adoption of international standards. This assessment may however be truer to the BPS Statistics Indonesia, however, where selected surveys by the Ministry of Agriculture still lack sound and scientific methodologies and are not fully captured in the indicator.

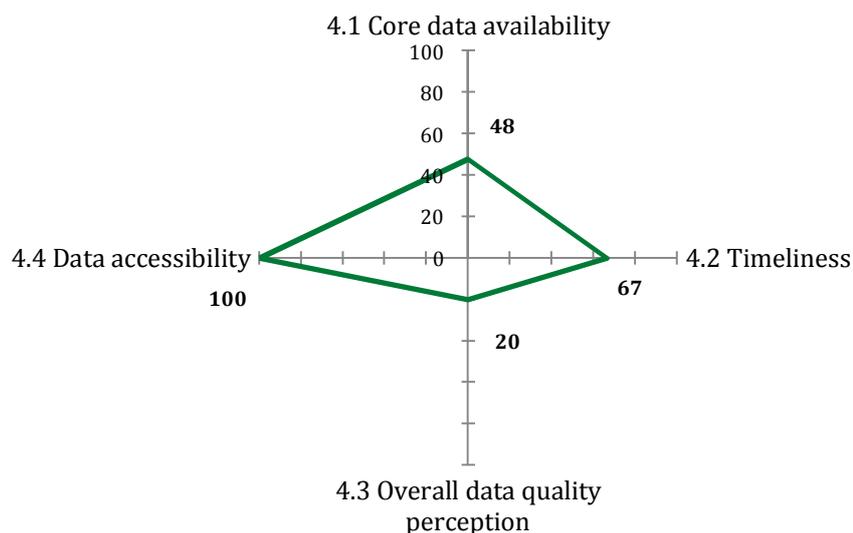


Figure 5. Four elements of Availability of Statistical Information in Indonesia, 2014

Note: A score of 100 represents a perfect representation of the defined criteria

On the state of core data availability, the CAQ noted a timely and reasonable coverage of the minimum set of core indicators (43 items of the minimum set of core indicators) with some deficiencies in the availability of data for aquaculture, agricultural inputs, agro-processing, rural infrastructure, and the environment. Key concerns were pointed to data quality where selected surveys and programs were highlighted as not being based on scientific sampling methods or sound statistical practices.

The fully Capacity profile of the NSS may be found in Annex V.

2. INSTITUTIONAL INFRASTRUCTURE

2.1 Administrative Structure

Indonesia is divided into 34 Provinces and some 400 Districts within the Provinces. The population totals some 237 million people, with more than 26 million agricultural holdings and approximately 44% of the population living in rural areas (Census of Population 2010 and the 2013 Census of Agriculture).

2.2 Legal, and Institutional Framework for Agriculture and Rural Statistics

The Statistics Law, Act No. 16, 1997 provides the legal basis for statistical activities in the country and identifies the executive agency for statistical activities as Badan Pusat Statistik (Statistics Indonesia). The Act mandates Statistics Indonesia to provide data and statistical information on a national and regional basis, as well as coordinate, integrate synchronize, and standardize the collection of statistics.

The Statistics Law also gives “line Ministries, such as the Ministry of Agriculture, a legal and operational basis for the collection of statistics. In addition to Statistics Indonesia, authority under the law, to collect and compile their particular sector-specific statistics has been given to:

- Ministry of Agriculture,
- Ministry of Marine Affairs and Fisheries,
- Ministry of Environment and Forestry

2.3 Structure of the National Statistical System

Statistics Indonesia is the Government agency responsible for the collection, processing, analysis and dissemination of statistical information related to socio-economic and demographic structure of the country but under the Law Ministries are empowered to collect and compile their sector for monitoring and information purposes. In accordance with the National Statistics System (NSS), the Ministry of Agriculture (MoA) has overall responsibility for the annual Food Crop, Estate Crop, Horticulture and Livestock Surveys, the autonomous Local Government Authorities are responsible for data collection (crop cutting excepted), and Statistics Indonesia processes the data and publishes the estimates.

When Statistics Indonesia has full responsibility for survey program probability samples are the foundation of the estimates. There are however three critical and significant co-operative programs, the first is the annual Food Crop program for estimating the area planted, harvested and production the second the annual Horticulture survey program and the third the annual program for estimating Livestock numbers. These programs are particularly problematic as they are not yet based upon probability samples or sound statistical practices and it is unfortunate that Statistics Indonesia publishes estimates, giving credibility to statistics that are not of the quality of its other estimates.

2.4 Strategic Framework and Coordination Mechanisms

There is a Committee referred to as the “Statistics Forum” that meets on a regular basis, approximately once every two months, to advise, guide, and discuss Statistics Indonesia statistical program with the Chief Statistician or his delegate. It is a high-level Forum and is comprised of Government representatives.

2.5 Coordination in the National Statistical System

The National Statistical System is a cooperative effort of Statistics Indonesia and the line and sector specific ministries that have statistical programs. The “Statistics Forum” also plays a key role in statistical program coordination.

2.6 Strategic Vision and Planning for Agricultural Statistics

The work and budgets and strategic development initiatives of Statistics Indonesia are published in the *Rancangan Teknokratik RENCANA Strategis* (National Strategic Development Plan for Statistics or NSDS). It is the 2015-2019, five-year strategic plan for the development of statistics. The current plan became effective September 2014.

Statistics Indonesia the nation’s national statistics agency has identified the development of an integrated statistical system for food crops as a high priority in the agency’s short and long term action plan and the December 2013 release of the results of the 2013 Agricultural Census, means that the Census of Agriculture is now available as a master sampling frame.

2.7 Integration of Agriculture in the National Statistical System (NSS)

There are three key Directorates at Statistics Indonesia collecting and compiling data on the agriculture, fishing and forestry sectors, (1) Directorate of Food Crops, Horticulture and Estate Crops Statistics, (2) Directorate of Livestock, Fisheries, and Forestry Statistics, and (3) Prices Directorate. The first two Directorates are each subdivided into three Divisions. Prices Directorate has four Divisions, Producer Prices (including farm product prices), Wholesale, Consumer and Rural. Rural is further subdivided into, Food Crops and Horticulture, Fisheries, Livestock and Forestry.

Statistics Indonesia has clear processes and procedures to ensure that the sector specific data on agriculture, fishing, and forestry is provided according to a pre-scheduled arrangement to the National Accounts and in particular the Production and the Expenditure Accounts Directorates.

2.8 Relevance of Data and User Feedback

There exists an official forum for dialogue between suppliers and users of agricultural statistics. There also exist informal “Forums” and well-established channels for receiving feedback through web contact and emails.

3. RESOURCES

3.1 Financial Resources

Statistics Indonesia agriculture statistics program appears to be reasonably well funded but it is difficult to estimate the total annual funding for agriculture statistics as budget support is provided by a large number of Directors in Statistics Indonesia and the Ministry of Agriculture.

The amount of census and survey activity is however substantive and the following selection of examples is an indication of the significant amount of Government funding.

Statistics Indonesia carried out the Indonesian Census of Population in 2010, and the Census of Agriculture in May 2013 (an enumeration of all agricultural households identified in the Census) and is preparing for its Economic Census 2016. Results for both the Population and Agriculture Census are now available.

The 2013 Census of Agriculture was a complete enumeration of all agricultural households identified by the Census of Population screening questions and followed the recommendations of the “World Programme for the Census of Agriculture 2010” (WCA 2010) and the Global Strategy to Improve Agricultural and Rural Statistics. As part of the census, Statistics Indonesia conducted the Household Budget Survey in 2013 with a probability sample of 418 thousand households; and the Cost Structure of Agricultural Production with a probability sample of some 1.3 million households to be undertaken in 2014.

In addition to maintaining its regular program, in 2006 – 2008 Statistics Indonesia conducted a National Livestock Household Survey (NLHS) on a probability design with a sample of 360,000 households. Moreover, the data resulted from the surveys was then updated by the Special Census of Cattle, Dairy Cattle, and Buffalo in 2011 and was re-updated in integration with the Census of Agriculture 2013.

Resources supporting the agriculture statistics program also include annual funding for a 210,000 monthly household probability sample used for estimating Producer Prices (Farm Product Prices).

3.2 Human Resources Staffing

Statistics Indonesia alone currently has as of 13 December 2013, 15,118 employees across the country with 1,509 in the Headquarters offices. Approximately 50 to 60 per cent of all employees work in the field as enumerators and interviewers. Staff turnover is apparently low as the organization provides good career advancement options within Statistics Indonesia.

The Food Crop, Horticulture, and Estate Crops Statistics Directorate has approximately 60 employees, the Livestock, Fisheries, and Forestry Statistics Directorate about 50. Prices Statistics Directorate currently has approximately 75 employees and The Census and Survey Methodology Development Directorate has approximately 60 employees of which 20 are specialised methodologists that provide sample design and selection services to the other Directorates. The methodologists are all trained in censuses and sampling the design and selection of probability samples.

3.3 Human Resources Training

Statistics Indonesia is one of the very few statistical offices that have established an “Institute of Statistics”. The Institute, established in 1958, offers a four-year certificate program in statistics

including sample design and selection and Statistics Indonesia hires its professionals (statistical officers) almost exclusively from the Institute.

The Institute's programs are open to Indonesians as well as applicants from other countries and a competitive process is used to select applicants for the program and BPS is given the first rights to refusal in making employment offers to the graduates. The total number of students at the Institute in the 4-year program is approximately 1400 and the Institute graduating year averages about 350 per year.

3.4 Physical Resources

The Headquarters office facilities are first class and well equipped with furniture, personal computers and servers. Every employee has a personal computer and some have more than one. Communications equipment, including Internet access is in all offices including all District Offices. The Provincial and District offices are also apparently just as well appointed. Statistics Indonesia also has sufficient vehicles and other transport necessary for conducting field operations. Field employees not assigned a vehicle are provided with motorcycles.

4. STATISTICAL METHODS AND PRACTICES

4.1 Sound Statistical Methods and Practices

Statistics Indonesia has a Methodology Directorate with about 60 employees in total and 20 trained and experienced professional statisticians or methodologists. They all specialize in sample design and selection. Without exception, the surveys for which Statistics Indonesia has full program responsibility and that are not conducted in cooperation with for example, the Ministry of Agriculture, are all based on probability samples and sound statistical methods and practices.

That argument cannot be made for the Ministry of Agriculture's annual survey of harvested area of Food Crops, production of Estate Crops produced by smallholders, harvested area and production of Horticulture Crops, and production of Livestock produced by households where data is collected by Local Government Authorities under the general direction of the Ministry of Agriculture. None of these surveys are based on sound, scientific statistical methods and practices. Similar case is also for fishery production data, which are collected and published by the Ministry of Marine Affairs and Fisheries.

In order to provide agricultural production data, Statistics Indonesia conduct a crop cutting survey for food crops productivity, complete enumeration of horticulture establishment, complete enumeration of estate crops establishment, complete enumeration of livestock establishment, complete enumeration of aquaculture and fishery establishment, complete enumeration of forestry establishment. In addition, data processing and publication of horticulture survey conducted by the Ministry of Agriculture are conducted by Statistics Indonesia.

Statistics Indonesia measures the sampling error for all of its probability based sample surveys and has put procedures in place to control for non-sampling errors, practices that apply to all its sample, census and administrative data programs.

An administrative data program is for example the Customs and Excise Harmonized System trade data for imports and exports. The Rubber Association of Indonesia are one of the users of the monthly Statistics Indonesia data, republishing the information in their own monthly bulletin for international subscribers, and the Association reports that Statistics Indonesia trade data is reliable, timely and well regarded by an industry that exports almost all of its production.

The Census and Survey Methodology Development Directorate is subdivided into four Divisions:

- Census and Survey Design Development
- Statistical Standardization and Classification Development
- Sample Frame Development
- Statistical Mapping Development

4.2 Data Quality

Statistics Indonesia operates, by any standard a world class and very professional statistical office and program. There are 20 methodologists/statisticians in the Methodology Directorate and although there is an argument that the agency would benefit from an expansion of the number of posts for methodologists, and may sometimes struggle with its workload to complete

assignments on schedule, the Directorate appears to be managing.

Statistics Indonesia has operated a Statistical Institute of higher learning with a 4-year certificate program since 1958. All Statistics Indonesia surveys are proper probability samples, and field collection is supervised by Head Quarters officers sent to the field during collection to observe the field operations and ensure that data collection procedures are followed. Statistics Indonesia also uses advanced IT technology to process large samples in a timely manner. The monthly Agriculture Producer Price surveys is a good example, the survey has a monthly household sample of approximately 210,000 households.

Statistics Indonesia clearly recognizes that confidence in the quality of the information is a key issue for the statistical agency. If its information becomes suspect, the credibility of the agency is called into question and its reputation as an independent, objective source of trustworthy information is undermined.

It is the practice at Statistics Indonesia to conduct surveys with either complete enumeration for the Census of Population, Agriculture and the Census of Economic Activity or by sampling proportional to size (probability sampling). Careful control of non-sampling errors is a preoccupation for all surveys with sampling errors an additional concern with respect to the sample surveys.

One of the most important issues is developing quality consciousness among staff. The hiring of new employees, since the mid-60's from among the best students in the four-year certificate program at the BPS Statistics Institute, is strong evidence of the effort and commitment to provide a the environment for quality consciousness throughout the organization.

The joint Horticulture Crops survey programs with the Ministry of Agriculture are problematic as Statistics Indonesia is the agency that processes and publishes Ministry of Agriculture survey data that are not based on scientific sampling methodology and are not equal in either quality or reliability when compared to its own statistically sound survey programs.

In case of food crops production, production is forecasted based on the harvested area, which is collected, by the Ministry of Agriculture and the productivity, which is collected by Statistics Indonesia. The data processing and publication are handled by Statistics Indonesia. As for horticulture production, the harvested area of food crops is also the main challenge, which needs to be improved to increase the data quality of food crop production.

4.3 Statistical Software Capability

Statistics Indonesia uses a wide variety of statistical programs for its data entry, processing, analysis and dissemination operations. The most notable include, Microsoft Access, Excel, CSPRO, and statistical analysis software such as SPSS.

Data are most frequently collected through personal interviews and in some cases by post, email or telephone, with manual data entry or scanning, as in the case of the Census of Population and Agriculture operations. The use of CAPI (Computer Assisted Personal Interviews) is currently under evaluation with the Consumer Price Survey and the monthly Producer Price Survey of Agricultural Households being among possible initial applications.

4.4 Information Technology Infrastructure

For agricultural statistics, Statistics Indonesia office has more than 15,000 personal computers, one for each employee plus a number of servers. Statistics Indonesia has a policy of a personal

computer for every employee, some have more than one, and that also appears to be the policy in the ministries of Agriculture, Marine Affairs and Fisheries, and Forestry.

4.5 International Standards, Concepts and Definitions

Indonesia uses and adheres to international statistical concepts, standards and definitions including the following standards and classifications identified in the Capacity Assessment Questionnaire:

- ISIC (International Standard Industrial Classification),
- ISCO (International Standard Classification of Occupations)
- CPC (Central Product Classification),
- SITC (Standard International Trade Classification),
- HS (Harmonized Commodity Description and Coding System),
- COFOG (Classification of Functions of Government),
- COICOP (Classification of Individual Consumption according to Purpose)

For statistical data processing, BPS has made the Geographic Code System (province, district/municipality, sub district, village, and census block) and their soft files sketch maps.

4.6 Analysis and Use of Data

Ministry of Agriculture is the responsible agency for compiling food balance sheets, which were last produced in respect of 2010. At a more aggregate level the Input-Output tables of the National Account's Production Directorate of Statistics Indonesia are also a major analytic undertaking by the National Accounts. A number of key data users also use balance sheets, supply and use/consumption or input output table to verify and assess the accuracy and reliability of the food crop estimates

- Estimates of quarterly production of the agriculture sector are prepared and published as part of the National Accounts quarterly estimates of GDP.
- Ministry of Agriculture's Central Office of Information devotes substantive resources to data analysis
- Ministry of Agriculture's *Division of Food Availability* assembles data on a monthly basis from throughout the Ministry to establish baseline estimates of annual food availability by commodity, the supply side of the balance sheet. Another Division, *Food Consumption Division* estimates, on a monthly basis the demand side for commodities and a third Division in the Ministry puts the availability and consumption data by individual commodity into monthly balance sheets and analyses and interprets the information for reports prepared for internal Ministry use.

5. MAIN STATISTICAL ACTIVITIES

5.1 General Statistical Activities

Population Census

Statistics Indonesia is the responsible agency for conducting the Population Census. The Census was last carried out in 2010 with the next one planned for the year 2020.

System of National Accounts

Statistics Indonesia is the responsible agency for compilation of National Accounts Statistics. The agriculture statistics program provides statistical information to both the Expenditure and the Production Accounts, and the Input-Output tables. The agriculture data are particularly valuable in calculating gross fixed capital formation (CVR). Estimates of production are prepared and published on a quarterly basis.

Statistics Indonesia has developed a Common Manual for the Indonesian National Accounts. The compilations of the national accounts are currently done under the UN SNA version 2008. Statistics Indonesia is assisted in preparing the Accounts by the Central Bank, which does the majority of the work in preparing the Balance of Payments and the Ministry of Finance that takes responsibility for preparing the Government income and expenditure account.

Statistics Indonesia co-ordinates the Accounts and their release, GDP is published on a timely basis, 35 days after the end of the reference date, and 40 days after the end of the reference date For the Balance of Payments.

5.2 Agricultural Markets and Prices Information

Statistics Indonesia has a very strong program for price statistics. The Prices Directorate has a number of data series and indexes for agriculture commodities, products and food. The Directorate produces the key Producer Price Index (PPI), collecting farm gate prices. The PPI is prepared based upon a monthly probability sample survey of about 210,000 agricultural households.

In addition there is a Farm Product Price Index to monitor the prices of agricultural inputs such as fertilizer, chemicals, feed seed, hatchery chicks, machinery and equipment, irrigation, fuel, oil and lubricants.

The Prices Directorate also produces a Wholesale Price Index and a Consumer Price Index and there is a new agriculture price index on the "Terms of Trade for Agriculture" which will be published in 2014.

5.3 Agricultural Statistical Activities

Agriculture Census

Statistics Indonesia conducts an Agriculture Census every 10 years in the years ending in "3". The most recent Agricultural Census was May 2013 and the results released early December 2013. The previous Agriculture Census was in 2003.

The 2013 Agriculture Census was conducted as a complete enumeration of all agricultural households. The Agriculture Census covered crops, livestock, aquaculture, the fishery, and forestry as it related to agricultural households and other income generating activities in rural areas.

The 2013 Agriculture Census used the cartographic material and administrative boundaries used for the Population Census. Questions to collect information on the participation of households in the agriculture sector were included in the Population Census to serve as a frame for the Agricultural Census and any future surveying of rural residents.

Household Budget Survey

Statistics Indonesia is the responsible office for the Household budget survey. The most recent survey was conducted in 2013 with the last survey being for 2004. The survey is a probability sample designed and undertaken by Statistics Indonesia and the contents of the survey include estimates of rural household income from sample survey of some 418 thousand households.

New Cost of Production Survey

Statistics Indonesia has recently received funding for a new Cost of Production Survey to estimate the costs of agricultural production. This survey is conducted as part of the Agriculture Census 2013 and it is implemented by a probability sample survey of some 1.3 million households to be undertaken in 2014.

Food Crop Production Surveys

The basis of the annual food crop production estimates is the Ministry of Agriculture's monthly complete enumeration of food crop area harvested and Statistics Indonesia seasonal crop cutting survey of food crop productivity. The area-harvested measurement is not based on sound statistical principals and has a history of overestimating area. However, yield is collected based on sound statistical methodology. The food crops are paddy rice, corn, soybeans, groundnuts, mung bean, sweet potato, and cassava.

There is an urgent need for Statistics Indonesia methodologists to be invited to review the program of area harvested data collection and help to re-establish it as a probability sample based on sound statistical practices.

The Ministry of Agriculture determines the survey methodology and the current methodology has been in place since 1972. The "interviewers", Agricultural Officers are Local Government employees and not employed or under the direction or control of either the Ministry of Agriculture or Statistics Indonesia. They are often inexperienced and both poorly trained and supervised.

Data collection is an unscientific "eye observation" report from farmer groups, village Chiefs and other local officials that provide an opinion on the total areas planted and harvested.

The *annual food crop survey program* over-estimates Indonesia's three main food crops, paddy rice, maize and soybeans. Paddy rice, the most important food crop, has been consistently over-estimated, for a number of years by more than 20 percent. (Rosner and McCulloch, "A Note on Rice Production, Consumption and Import Data in Indonesia", Bulletin of Indonesian Economic Studies Vol. 44 No. 1, 2008)

New improvement of Food Crops Productivity Survey

Starting 2012, Statistics Indonesia has revised the methodology of crop cutting survey of food crops productivity. Moreover, the sample size has been also increased to produce the district level of estimation. The sample is a 5-stage probability sample using probability proportional to size criteria. It is to be a national sample of 154,000 plots with one plot per household.

New Pilot Survey of Crop Area - Satellite Imagery (probability sample)

This is another new initiative. It is cooperative "Pilot Survey" to improve the quality of the Food Crop estimates and is an initiative between Statistics Indonesia and the Ministry of Agriculture based on high-resolution satellite imagery (1.5 meters per pixel). The program is to be conducted during the period 2015 to 2018 and the current plan proposes a sample of approximately 1,000 land segments in each of the country's 34 provinces.

An earlier initiative by the Ministry of Agriculture, Central Office of Information based on lower resolution LANDSAT data provided somewhat disappointing and inconclusive results in estimating crop areas and this is an effort to make a second effort to assess the technology.

Annual Estate Crop Surveys

Estate crops include rubber, palm oil, sugar, coffee, tea, cinnamon, pepper, etc. The annual Estate Crop Survey is a project led by the Ministry of Agriculture and undertaken jointly with Statistics Indonesia. The survey is divided into two parts, (1) an annual census of all establishments by personal interview, post, email or telephone, for the approximately 1,800 large plantation operations, and (2) a smallholder survey. Statistics Indonesia is responsible for data processing and publication and data collection of smallholder estate crops is an unscientific "eye observation" from the Local Government's District Agriculture Officers.

There is an urgent need for a program review and support to Statistics Indonesia to redesign the survey as a probability sample based on sound statistical practices.

Annual Horticulture Survey

Horticulture statistics are based on the annual Horticulture Survey, a project led by the Ministry of Agriculture and undertaken jointly with Statistics Indonesia. The Ministry of Agriculture determines the survey methodology. The interviewers are Local Government employees, and they are often inexperienced and both poorly trained and supervised.

BPS is responsible for data processing and publication but not survey methodology. The Horticulture survey is not based on a sound scientific methodology and the methodology should be revisited and replaced with a more objective probability sample survey.

In efforts to improve the quality of the horticulture data Statistics Indonesia has recently established an annual probability sample survey for chilies and shallots. On a pilot basis, it employs Statistics Indonesia interviewers to collect area and production data. It is an effort to identify the discrepancies between the current Horticulture statistics program and the "Pilot" that is based on probability sampling and is viewed as a step towards improving the horticulture survey program.

The annual Horticulture crops survey collects data for 90 of the approximately 323 grown in the country. The list includes, shallots, garlic, onions, potatoes, cabbage, cauliflower, Chinese cabbage, carrots, radish, red bean, yard long bean, Chili (*Capsicum Annum*), Chili (*Capsicum Frutescens*), sweet pepper, mushrooms, tomatoes, eggplant, green bean, cucumber, chayote, kangkong, spinach, melon, water melon, cantaloupe, strawberry, avocado, star fruit, duku, durian, guava, rose apple, orange/tangerine, pomelo, mango, mangosteen, jackfruit, pineapple, papaya, banana, rambutan, salacca, sapodilla/star apple, marquisa, soursop, breadfruit, apple, grape, melinjo, twisted cluster bean, jenkol, ginger, galangal, East Indian galangal, turmeric, *Zingiber aromaticum*, Java turmeric, black turmeric, Chinese keys, sweet root/calamus, Java Cardamom, Indian mulberry, *Phaleria macrocarpa*, verbenaceae, king of bitter, aloevera, orchid, flamingo flower, carnation, barberton daisy, sword lily, lobster claw, *Cristantemum*, rose, tuberose, dragon tree, jasmine, palm tree, Chinese evergreen, sabi star/desert rose, pointsettia, love tree, sago palm, ceriman/Swiss cheese plant (*monstera*), West Indian jasmine (*Ixora*), cordyline, dieffenbachia, snake plant (*sanseveria*), panthers palette (*anthurium*), caladium.

Annual Livestock Survey

The primary source of livestock data is the Ministry of Agriculture's annual livestock survey. The Ministry of Agriculture leads the livestock survey project. The Ministry of Agriculture determines the survey methodology. The Local Government Authority Agricultural Officers are responsible for "field collection", data processing and publication.

Statistics Indonesia maintains the complete enumeration of livestock produced by establishments. In addition, there is also a complete enumeration of slaughtering facilities to estimate meat production, however, non-response is a significant problem for the current

establishment survey program and that needs to be addressed if the estimates are to be improved. Householders, restaurants and mosques also slaughter significant numbers of sheep, goats, and poultry.

In response to some of the difficulties with the livestock estimates a special livestock population survey was conducted in 2006-2008, coordinated by Statistics Indonesia. The NLHS (National livestock Household Survey) was a 360,000 household sample designed to provide District level estimates.

Special Census of Cattle, Dairy Cattle, and Buffalo

Statistics Indonesia conducted a special Census of Cattle, Dairy Cattle, and Buffalo in 2011 in order to provide the livestock population indicators. The result is then updated in the Agriculture Census 2013.

Annual Fishery Surveys

There is a need to undertake a comprehensive review of the fishery surveys, which for the most part are conducted by the Ministry of Marine Affairs and Fisheries and few, if any, are based on sound scientific methods and practices. The Ministry is encouraged to invite Statistics Indonesia to assist with such a review, the objective being to establish the surveys on a sound statistical foundation. Fish catch and aquaculture surveys have been carried out within the last five years but there is not much rigor in their design as few are based on sound statistical practices. For example, there is a program to collect data on the fish catch when boats return to port but the statistics are incomplete and under state the catch as not all ports are included in the program and the Fishery employees are not always at the docks when the boats land their catch. This is a significant issue as many boats arrive back in port early the morning before the fishery staff arrives.

In detail the annual fishery surveys is explained as follows:

Methods of Data Collection of Capture Fisheries

Data collection mechanism in Capture Fisheries Directorate is divided into 3 surveys:

- Survey of form L-I, survey on Fisheries Company (each month)
- Survey of form L-II, survey on fish landing/Landing Fishing Port (TPI, PPN, PPS, PPP) (data collected every day, but the report recapitulated in 1 month). L-I and L-II are fully enumerated (census)
- Survey of form L-III, sample village of survey (quarterly)

Methods of Data Collection of Aquaculture

- Directorate General of Aquaculture compiled the survey methodology, coaching/supervision to Department of Marine and Fisheries Provincial (Dinas Kelautan dan Perikanan Provinsi), tabulation and compilation, analysis and presentation of statistical data and information on the national aquaculture based statistical report by the Department of Marine and Fisheries District/City (Dinas Kelautan dan Perikanan Kabupaten/Kota) through the Department of Marine and Fisheries Provincial
- Department of Marine and Fisheries Provincial, determines village (based on data from the Census of Agriculture conducted by Statistics Indonesia) survey in accordance with the method developed by the Directorate General of Aquaculture MMAF, supervision to the Department of Marine and Fisheries District/City, do tabulation and compilation, analysis and presentation statistical data and information on the Provincial aquaculture based statistical report submitted by the Department of Marine and fisheries District/City
- Department of Marine and Fisheries District/City coaching/supervising enumerator conducted by enumerator and compile statistical reports at the district/city level
- Enumerator performs data collection in accordance with the questionnaire/form that has been specified.

Annual Forestry Surveys

There is a need for a comprehensive review of the forestry survey programs. The Ministry of Environment and Forestry and Statistics Indonesia (BPS) have begun discussions to collaborate and develop a project to improve the forestry and environmental statistics programs and strengthen the statistical capacity of the employees in the Ministry

Research results indicate that the potential of the Ministry of Environment and Forestry timber forest products is only 5% while 95% were non-timber forest products. It certainly should be a cautionary note in any effort to identify and record production of forest products on which to base policy making forestry development priorities.

The survey of non-timber forest products is still not optimal and not well structured . Data of various non-timber forest products are likely still of doubtful validity. This happens because the management of non-timber forest products has not been a priority.

The Government is reducing harvest limits in response to environmental concerns and unease over decreases in forest cover and as a consequence, the production of wood from plantations is becoming increasingly important.

Since the 2008's the Ministry of Environment and Forestry has produced annual data and information about timber production (from natural and plantation forests), forest area, the alteration of forest area conservation areas, flora and fauna, forest security and forest fire, water management and social forestry, utilization of forest plantations, utilization of ecosystem-restoration forestry, information on the primary forest industry, forestry products, forest product marketing, empowerment of forest villages, human resources on forest management, research and development, human resources development, staff training, foreign cooperation, infrastructures and facilities, budget and contribution of forestry sub sector to GDP, supervision and control.

The significant survey programs for these data are particularly problematic, as they are not based upon probability samples and there is a lack of resources to provide adequate funding and staffing.

Water

There is apparently no specific survey activity.

Environment

There is apparently no specific survey activity.

6. CORE DATA AVAILABILITY AND QUALITY

6.1 Core Data

Indonesia collects, compiles and publishes all of the “*global minimum key variables*” and “*global minimum data items*” at the recommended frequency or better. Indonesia also has a lengthy list of agricultural commodities included on the decennial Census of Agriculture and the annual agriculture surveys. The Indonesian *Core data* compared to the international recommendations as to what constitutes the minimum set of core data. A detailed listing of the core agriculture, fishing and forestry data for Indonesia compared to the *Global recommendations* are presented in Annex I.

6.2 Core Data Availability, Coverage and Quality

Indonesia publishes all of the “*global minimum key variables*” and “*global minimum data items*” at the National and Provincial level (34 Provinces) for agriculture, fishing and forestry at the recommended frequency or better. Much of the agriculture data from the decennial Census of Agriculture is also available at the District and sub-District level of geographic detail. Coverage is national for the Agriculture Census and the key annual crop and livestock statistics programs.

Surprisingly horticulture production estimates from the annual Horticulture Crops surveys are also readily available at the District and sub-District level as the Local Government Authorities that employ the Agriculture Officers, collecting and compiling the statistics on behalf of the Ministry of Agriculture, want the data at that level of geographic detail.

Coverage of fisheries and forestry data normally available at least at the National and Provincial level and very often at the District and sub-District level but data quality is variable and difficult to assess and evaluate as very few of the fishery and forestry surveys and programs are based on scientific sampling methods or sound statistical practices.

The Census of Agriculture provides information on number of agricultural households, farmer demography, and commodities population. In addition, it also provides the agriculture households socio economic information.

7. CRITICAL CONSTRAINTS AND OBSERVATIONS

7.1 Critical Constraints and Challenges

The current key annual agriculture surveys for the annual estimates of Indonesia's Food Crops, Estate Crops, Horticulture Crops and Livestock surveys are not based on sound, scientific statistical methods and practices.

There is a pressing need for the methodology of these key annual survey programs to be reviewed and the methodologists at Statistics Indonesia be invited to replace them with objective probability sample surveys based on sound statistical practices. Of primary importance is the need to revise the Food Crops Survey and the methodology used to estimate paddy rice, maize and soybeans. Revising the program will also however require agreement on the proposed changes by all the current partners, Local Government Authorities, Ministry of Agriculture, and Statistics Indonesia. It is recommended that the planned revisions to the sample design and field collection operations for the Food Crops survey be tested and evaluated with a *Pilot Survey* on the island of Java.

There are approximately 400 autonomous Local Government District Authorities. The Local Government Authorities value their current role in establishing food, estate and horticulture crop and livestock estimates at the Districts and Sub-District level, and the autonomous Local Government authorities may not welcome the introduction of probability sampling, a methodology that will reduce their influence and role in establishing the estimates.

The autonomous Local Government Authorities currently play a key role in establishing the annual estimates of area harvested at the sub-District level which when totalled become the national estimates. The agricultural commodities include:

Food crops: Paddy rice, corn, soybeans, groundnuts, mung bean, sweet potato, and cassava,

Estate crops: Rubber, palm oil, sugar, coffee, tea, cinnamon, pepper, etc.

Horticulture crops: Some 90 crops of the 323 horticulture crops of significance grown in the country. The detailed listing of the 90 crops can be found in Annex I.

Livestock and livestock products: Cattle, dairy cattle, buffalo, horse, goat, sheep, pig, native chicken, layer, broiler and ducks, milk, meat (by type of animal), and eggs.

Fishery surveys are for the most part conducted by the Ministry of Marine Affairs and Fisheries and few, if any, are based on sound scientific methods and practices.

Indonesia is a nation of approximately 17,500 islands. It has a population of some 237 million people, 44 per cent rural, and approximately 26.1 million agricultural households (2010 Census of Population and 2013 Census of Agriculture). The country presents significant challenges in terms of sustained funding to support the substantive financial requirements, human resources, transport and communications necessary for data collection.

7.2 Strengths and Weaknesses, Opportunities and Threats (SWOT)

The SWOT matrix for the Indonesian Agricultural fishing and Forestry Statistics Program is presented in Annex II. The matrix provides a summary of the key issues that will influence efforts to improve the statistical methods and practices used to prepare the annual estimates of Food, Estate, and Horticulture Crops, and Livestock. It also offers some guidance as to what might be the priorities for program improvements, and what might be done to build on the existing and formidable strengths in Statistics Indonesia to seize opportunities for success, overcome some critical weaknesses in the current annual survey programs, and to mitigate some of the existing threats.

Annex I – INDONESIA COMPARED TO THE GLOBAL MINIMUM SET OF CORE DATA ITEMS

Group of variables	Key variables (Global minimum)	Core data items (Global)	Frequency (Global)	Core data Indonesia Indonesia	Frequency Indonesia	Comments
Economic						
Output	Production	Core crops (e.g. wheat, rice)	Annual	<p>Food Crops Rice, maize, soybeans, groundnuts, mung bean, cassava, sweet potato, peanuts, green bean</p> <p>Estate Crops Rubber, palm oil, sugar, coffee, tea, cinnamon and pepper</p> <p>Horticulture Crops (90 of the approx.323 grown) Shallots, garlic, onions, potatoes, cabbage, cauliflower, Chinese cabbage, carrots, radish, red bean, yard long bean, Chili (Capsicum Annum), Chili (Capsicum Frutescens), sweet pepper, mushrooms, tomatoes, eggplant, green bean, cucumber, chayote, kangkong, spinach, melon, water melon, cantaloupe, strawberry, avocado, star fruit, duku, durian, guava, rose apple, orange/tangerine, pomelo, mango, mangosteen, jackfruit, pineapple, papaya, banana, rambutan, salacca, sapodilla/star apple, marquisa, soursoop, breadfruit, apple, grape, melinjo, twisted cluster bean, jenkol, ginger galangal, East Indian galangal, turmeric, Zingiber aromaticum, Java turmeric, black turmeric, Chinese keys, sweet root/calamus, Java Cardamom, Indian mulberry, Phaleria macrocarpa, verbenaceae, king of bitter, aloevera, orchid, flamingo flower, carnation, barberton daisy, sword lilly, lobster claw, Cristantemum, rose, tuberose, dragon tree, jasmine, palm tree, Chinese evergreen, sabi star/desert rose, pointsettia, love tree, sago palm, ceriman/Swiss cheese plant (monstera), West Indian jasmine (Ixora), cordylone, dieffenbachia, snake plant (sanseveria), painters palette (anthurium), caladium</p>	Seasonal	Annual Food Crop, Horticulture and Estate Surveys of area harvested are not based on probability samples or scientific statistical methodology All three survey programs are managed and the data collected by the Ministry of Agriculture/Local Government Authorities. Statistics Indonesia having responsibility for the processing and publication of the food crops and horticulture estimates.

Group of variables	Key variables (Global minimum)	Core data items (Global)	Frequency (Global)	Core data Indonesia Indonesia	Frequency Indonesia	Comments
		Core livestock (e.g. cattle, sheep, pigs)	Annual	Cattle, dairy cattle, buffalo, horse goat, sheep, pig, native chicken, layer, broiler and duck Milk, meat (by type of animal), egg.	Annual	The Livestock produced by households data collection is not based on probability samples or scientific statistical methodology.
		Core forestry products	Annual	Production of timber, woodchips, firewood and briquette; their values	Annual Decennial	The data collection is managed by the Ministry of Agriculture/Local Government Authorities. Statistical methodology requires reviews to estimate cost structure of production
Area, production and yield	Area harvested and planted	Core crops (e.g. wheat, rice)	Annual	"Same crops as listed in Production"	Seasonal	Underestimated
	Yield/Productivity	Core crops, core livestock, core forestry, core fishery	Annual	"Same crops as listed in Production"	Seasonal	Statistical methodology requires review and revision Census of Agriculture
Trade	Exports in quantity and value	Core crops, core livestock, core forestry, core fishery	Annual	Harmonized System Statistics "Same crops as listed in Production"	Monthly	
	Imports in quantity and value	Core crops, core livestock, core forestry, core fishery	Annual	Harmonized System Statistics "Same crops as listed in Production"	Monthly	
Stock of resources	Land cover and use	Land area		Land cover by type, agriculture area, cultivated cropland, pasture, other [irrigated, wetland, dry land, plantation, orchard], pasture, etc.)	annual	The data is not reliable due to unsound statistical methodology.
	Economically active population	Number of people of working age by sex	Not specified			
Stock of resources	Forest	NA	NA			
	Livestock	Number of live animals	Not specified	Cattle, goats, horses, pigs, poultry, sheep, yaks, utility dogs, utility cats	Annual and decennial Census	Annual estimates underestimated
	Machinery	e.g. number of tractors, harvesters, seeding equipment	Not specified	a) Farm machinery b) Distribution of farm machineries and equipment (e.g. plough, rice mill, oil mill, power sprayer, power tiller, rice huller, trailer)	10 years	Census of Agriculture
	Water	Quantity of water withdrawn for agricultural irrigation	Not specified		NA	

Group of variables	Key variables (Global minimum)	Core data items (Global)	Frequency (Global)	Core data Indonesia Indonesia	Frequency Indonesia	Comments
	Fertilizers in quantity and value	Core fertilizers by core crops	Not specified			
	Pesticides in quantity and value	Core pesticides (e.g. fungicides herbicides, insecticides, disinfectants) by core crops	Not specified			
Inputs	Seeds in quantity and value	By core crops	Not specified	Amount of commercial seed	Annual	
	Feed in quantity and value	By core crops	Not specified	Rice, maize, soybeans	Annual	
Agro-processing	Volume of core crops/livestock/fishery used in processing food	By industry	Not specified			
	Value of output of processed food	By industry	Not specified			
	Other uses (e.g. biofuels)		Not specified			
Prices	Producer prices	Core crops, core livestock, core forestry, core fishery	Not specified	Core crops, core livestock, core forestry needed for GDP calculation	Monthly	Producer Price Index PPI
	Consumer prices	Core crops, core livestock, core forestry, core fishery	Not specified	Core crops and core livestock identified in "outputs"	Monthly	Consumer Price Index CPI
Final expenditure	Government expenditure on agriculture and rural development	Public investments, subsidies, etc.	Not specified	Public investments, Subsidies	Quarterly and Annual	GDP and BOP
	Private Investments	Investment in machinery, in research and development, in infrastructure	Not specified	Private Investments	Quarterly and Annual	National Accounts GDP
	Household consumption	Consumption of core crops/livestock/etc. in quantity and value	Not specified			
Rural infrastructure (capital stock)	Irrigation/roads/railways/communications	Area equipped for irrigation/ roads in km/railways in km/communications	Not specified	Area under irrigation (Acre) Roads (km) Telephone connection (Number) Trunk connection (Number)	Annual	

Group of variables	Key variables (Global minimum)	Core data items (Global)	Frequency (Global)	Core data Indonesia Indonesia	Frequency Indonesia	Comments
International transfer	Official development assistance for agriculture and rural development		Not specified	Official development assistance for agriculture and rural development	Annual	National Accounts GDP and BOP
Social						
Demographics of urban and rural population	Sex	Not specified	Not specified	Sex ratio (overall)	Decennial Annual	Census of Population
	Age in completed years	By sex	Not specified	Age in completed years	10 Years	Census of Population
	Country of birth	By sex	Not specified	Country of birth	10 Years	Census of Population
	Highest level of education completed	1 digit ISCED by sex	Not specified	Highest level of education completed	10 Years	Census of Population
	Labour status	Employed, unemployed, inactive by sex	Not specified		Annual	Labour Force
	Status in employment	Self-employment and employee by sex	Not specified	Status in employment	Annual	Labour Force
	Economic sector in employment	International Standard Industrial Classification by sex	Not specified	Economic sector in employment	Annual	Labour Force
	Occupation in employment	International Standard Classification of Occupations by sex	Not specified	Occupation in employment	Annual	Labour Force
	Total income of the household		Not specified			
	Household composition	By sex	Not specified	Household composition by sex	10 Years	Census of Population
	Number of family/hired workers on the holding	By sex	Not specified	Number of family/hired workers on the holding by sex	10 Years	Census of Population
	Housing conditions	Type of building, building character, main material, etc.	Not specified	Housing conditions	10 Years	Census of Population, complete enumeration
	Access and distance to services and social capital					

Group of variables	Key variables (Global minimum)	Core data items (Global)	Frequency (Global)	Core data Indonesia Indonesia	Frequency Indonesia	Comments
Environmental						
Land	Soil degradation	Variables will be based on above core items on land cover and use, water use, and other production inputs	Not specified			
Water	Pollution as a result of agriculture	Variables will be based on above core items on land cover and use, water use, and other production inputs	Not specified			
Air	Emissions resulting from agriculture	Variables will be based on above core items on land cover and use, water use, and other production inputs	Not specified			
Forest	NA	NA	NA			
Geography						
GIS coordinates	Location of the statistical unit	Parcel, province, region, country	Not specified			
Degree of urbanization	Urban/rural area	Not specified	Not specified			

Annex II: SWOT MATRIX - STRENGTHS WEAKNESSES OPPORTUNITIES THREATS

STRENGTHS	WEAKNESSES
<p>When Statistics Indonesia has full responsibility for survey program probability samples are the foundation of the estimates. All Statistics Indonesia surveys are proper probability samples, and field collection is supervised by Head Quarters officers sent to the field during collection to observe the field operations and ensure that data collection procedures are followed.</p> <p>Statistics Indonesia also uses advanced IT technology to process large samples in a timely manner (Census of Agriculture, 26.1 million households enumerated May 2013 and results published December 2013).</p> <p>Statistics Indonesia has a world class and very professional statistical office and program. There are 20 methodologists/statisticians in the Methodology Directorate.</p> <p>Statistics Indonesia has operated a Statistical Institute of higher learning with a 4-year certificate program since 1958.</p> <p>No apparent duplication of efforts in data collection</p> <p>Statistics are published on a timely basis with well-defined scheduled release dates with BPS web based releases and publications</p> <p>Cooperative and positive environment between Statistics Indonesia, the Ministries of, Agriculture, Marine and Fisheries, and Forestry, and the autonomous Local Government Authorities.</p> <p>Statistics Indonesia has a well established decennial Census of Population (years ending in "0"), Census of Agriculture (years ending in "3"), and Census of Economic (Years ending in "6")</p> <p>BPS has a well-structured <i>System of National Accounts</i></p>	<p>None of the key annual agriculture surveys for the Ministry of Agriculture's annual Food Crops, Estate Crops, Horticulture Crops and Livestock surveys are based on sound, scientific statistical methods and practices.</p> <p>The data for the annual area harvested of Food Crops, Estate Crops, and Horticulture Crops; and Livestock produced by household are collected by Local Government Authorities under the general direction of the Ministry of Agriculture and for food crops and horticulture the role of Statistics Indonesia is limited to data processing and publication. Livestock produced by household is purely collected and published by the Ministry of agriculture.</p> <p>Fishery surveys are for the most part conducted by the Ministry of Marine Affairs and Fisheries and few, if any, are based on sound scientific methods and practices.</p>

OPPORTUNITIES	THREATS
<p>Statistics Indonesia and the various Directorates in the Ministry of Agriculture all appear to be in complete agreement that there is an urgent need to adopt sound statistical practices and methodology for estimating the annual Food, Estate, and Horticulture crops, and Livestock.</p>	<p>The 34 Provinces and approximately 400 autonomous Local Government District Authorities may be reluctant, and maybe even unwilling to lose their current role and influence in establishing the annual food, estate, horticulture and livestock estimates should the survey methodology be based on sound statistical practices and probability sampling.</p>
<p>Statistics Indonesia is currently documenting the <i>National Statistics System (NSS)</i>, and preparing its <i>Strategic Plan for Statistics 2015 to 2019</i>, replacing the plan for 2010 to 2014.</p>	<p>Indonesia, a country of 237 million people, and 26 million agricultural households presents significant challenges in terms of funding to support the substantive financial requirements, human resources, transport and communications necessary for the collection of agriculture and rural statistics.</p>
<p>Indonesia has recently secured a loan from the World Bank for further improvements to the NSS and it may be an opportune time to prepare the Strategic Plan for Agriculture and Rural Statistics and identify proposal for improving the agriculture and rural statistics and strengthening statistical capacity.</p>	
<p>There will be a new administration following the Presidential elections scheduled for July 2014.</p>	

ANNEX III - List of Key Stakeholders

BPS-Statistics Indonesia
Ministry of Agriculture
Ministry of Marine Affairs and Fisheries
Ministry of Environment and Forestry
Ministry of National Development Planning/National Development Planning Board (BAPPENAS)
Ministry of Finance
Ministry of Trade
Agency for the Assessment and Application of Technology (BPPT)
The Coordinating Ministry for Economic Affairs
Province Agricultural Government Authority
District Agricultural Government Authority
Presidential Working Unit for Supervision and Management of Development (UKP4)
Agricultural Economics Association of Indonesia (PERHEPI)
Forum Statistics Society
Bank of Indonesia
Indonesia Chamber of Commerce and Industry (KADIN)
Rubber Association of Indonesia (GAPKINDO)
Indonesia Representative for Cargill
BULOG- Indonesia National Logistic Agency
Bogor Agricultural University
United Nations Population Fund
United States Agency for International Development
United States of America Embassy, Agricultural Attaché
World Bank

ANNEX IV – Framework for Country Assessment

Guiding Framework: Agricultural and Rural Statistics Capacity Assessment	
Capacity Dimensions	Elements
I. Institutional Infrastructure (PREREQUISITES)	1.1. Legal Framework
	1.2 Coordination in the National Statistical System
	1.3 Strategic Vision and Planning for Agricultural Statistics
	1.4 Integration of Agriculture in the National Statistical System
	1.5 Relevance of data (user interface)
II. Resources (INPUT DIMENSION)	2.1 Financial Resources
	2.2 Human Resources: Staffing
	2.3 Human Resources: Training
	2.4 Physical Infrastructure
III. Statistical Methods and Practices (THROUGHPUT DIMENSION)	3.1 Statistical Software Capability
	3.2 Data Collection Technology
	3.3 Information Technology infrastructure
	3.4 General Statistical Infrastructure
	3.5 Adoption of International Standards
	3.6 General Statistical Activities
	3.7 Agricultural Market and Price Information
	3.8 Agricultural Surveys
	3.9 Analysis and Use of Data
	3.10 Quality Consciousness
IV. Availability of Statistical Information (OUTPUT DIMENSION)	4.1 Core Data Availability
	4.2 Timeliness
	4.3 Overall data quality perception
	4.4 Data Accessibility

ANNEX V – Country Capacity Indicators, Indonesia 2014

INDONESIA Country Capacity Indicators – 2014

Note: Indicator scores are calculated on a scale of 0 – 100, where a score of 100 meets all the defined criteria.

Indicator I: Institutional Infrastructure	Score	Notes	Graph
1.1 Legal Framework	100	The Law of the Republic of Indonesia Number 16 of 1997 provides the legal basis for statistical activities in the country in general. The executive agency for statistical activities in general is Statistics Indonesia and the legal basis is operational. The legal framework is rated as “workable”.	
1.2 Coordination in the NSS	0	A committee for coordination of agricultural and rural statistics has been established; and covers crops, livestock, aquaculture, environment, rural development, and agriculture population statistical domains.	
1.3 Strategic Vision and planning for agricultural statistics	50	Planning and preparation is underway for the development of a national strategy specific to agricultural statistics.	
1.4 Integration of agriculture in the NSS	40	There exists a strategic plan for the development of statistics as given in the Strategic Plan for Statistical Development . The plan is operational and covers the period 2010 to 2014. It includes a programme of work for the sub-sectors relating to crop and livestock statistics. Planning and preparation is underway for the development of the 2015-2019 plan.	

	Score	Notes	Graph
1.5 Relevance of Data	90	There exists an official forum for dialogue between suppliers and users of agricultural statistics in which regularly scheduled meetings are conducted. There also exist informal forums and well established channels for receiving feedback through web contact and emails. These channels of communication between data suppliers and users of agricultural statistics are deemed to be adequate.	
Indicator II: Resources 88			
2.1 Financial Resources	100	Separate budget line information is not available as total salaries are managed at the corporate level and not by Directorate, Division, Section or Unit. Non-salary budgets are managed at the Division level, but not necessarily in the detail to identify statistical operations separate from other activities. At Statistics Indonesia, approximately 80-100 percent of statistical activities are funded from the government budget.	
2.2 Human resources: staffing	100	There are currently 78 professional officers tasked to produce agricultural statistics – most of which are sourced from the 4-year Indonesia Statistical Institute program.	
2.3 Human resources: training	53	There exists an official training program for agricultural statistics. Employees are encouraged to take training courses each year.	

	Score	Notes	Graph
2.4 Physical infrastructure	100	It is BPS policy to provide its field office employee's with a minimum of at least a motorcycle. However the Local Government Authority "Agricultural Officers" with responsibility for providing the annual statistics program "eye observation" estimates for planted and harvested crop areas, the crop production estimates and assist BPS employees with the crop-cutting survey have no transportation and no equipment.	
Indicator III: Statistical methods and practices	85		
3.1 Statistical software capability	100	Various Statistical software packages are utilized for processing, analysis, and databases activities including: SPSS, STATA, ORACLE, and Microsoft ACCESS.	
3.2 Data collection technology	82	Technology used for data collection and transfer of survey data include use of: GPS, PDA and Tablet use, manual data entry, scanning of questionnaires, and wireless transfer from the field. The use of CAPI still in Testing and Pilot Survey status.	
3.3 Information technology infrastructure	75	The computer to staff ratio is higher than 1 in the BPS, where BPS has a policy of at least one computer per person. Information on the number of servers used was not provided.	

Score	Notes	Graph
3.4 General statistical infrastructure	86 To support statistical activities, the following services are available: up-to-date digitized topographical maps, an up-to-date list of large active agricultural farms, enumerators are provided with a printed map for data collection, an up-to-date Master Sampling Frame or Farm Register for agricultural sample surveys and statistical units are geocoded. An established unit to process remotely sensed satellite data for crop monitoring and production forecasting is under consideration.	
3.5 Adoption of international standards	75 ISIC (1 digits) , CPC (10 digits), SITC (3 digits), HS (10 digits), COICOP (4 digits), ISCO (4 digits), COPIN (5 digits), and COFOG (5 digits) international classifications are used.	
3.6 General statistical activities	100 A variety of statistical activities are conducted including: a Population census, up-to-date national account estimates, a consumer price index, and a wholesale price index is published.	
3.7 Agricultural market and price information	100 Wholesale and producer prices are collected nationally covering crops, livestock, and fish related products. Agricultural market prices are also collected and disseminated covering crops, livestock, and fish related products.	
3.8 Agricultural surveys	74 A variety of agricultural surveys are carried out in the country relating to crops, livestock, fishery, forestry, environment and rural development.	

	Score	Notes	Graph
3.9 Analysis and use of data	80	Statistics are derived for economic accounts in production and income for the agricultural sector, and balance sheet (Output-Account) (BPS National accounts also have government income and expenditure accounts); food balance sheets, commodity balances for crops and livestock, and agri-environmental indicators are also derived by the Ministry of Agriculture.	
3.10 Quality consciousness	81	The probability sample, sampling errors, metadata, and micro data are compiled for most agricultural surveys.	
Indicator IV: Availability of statistical information			
4.1 Core data availability	48	43 items of the minimum set of core indicators are covered with deficiencies in the availability of data for aquaculture, agricultural inputs, agro-processing, rural infrastructure, and the environment.	
4.2 Timeliness	67	The modal year of availability of all items produced from the minimum set of core indicators is 2012	
4.3 Overall data quality perception	20	The modal quality score of all items produced from the minimum set of core indicators is "Unacceptable"	
4.4 Data accessibility	100	Statistics Indonesia has a website for hosting official statistics and is accessible to external users on the internet	

