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National agricultural information management system: meeting of data requirements of specialized institutions.

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NATIONAL AGRICULTURAL INFORMATION MANAGEMENT SYSTEM; MEETING THE DATA REQUIREMENTS OF SPECIALISED INSTITUTIONS.

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INTRODUCTION:

The availability of adequate, reliable and consistent data whether in business, social or physical sciences usually forms a good basis for planning and decision making. Accumulated agricultural data constitute an important tool in agricultural policy formation, analysis of farm production and assessment of the performance of agric-business. In the area of agricultural financing, for example, relevant agricultural information at the disposal of a lending institution enhances the, analysis and appraisal of agricultural projects to be financed. Similarly, reliable and comprehensive data on all aspects of agricultural activities would improve the level of monitoring developments in the sector as well as strengthen the capacity to render factual and objective advice to government on matters relating to agriculture. The need for reliable, timely and accurate agricultural data cannot be over-emphasised. However, the dearth of adequate, reliable and consistent data and other deficiencies in these areas have often been cited as some of the major constraints to efficient agricultural development and economic planning in Nigeria (Stolper, 1966).

The general deplorable situation with respect to accumulation of suitable statistical information in the country has been of grave concern to agriculturalists, economists, businesses and institutions which need such information for their operations. Many specialised institutions, including the Central Bank of Nigeria have, over the years, had their share of the bad experience with the problems of inadequacy of data, especially with respect to monitoring the performance of the economy and evaluating the impact of policy measures adopted by the Government.

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Although scattered efforts have been made to improve the collection of data in general and agricultural statistics in particular, these efforts have resulted in various institutions providing overlapping and inconsistent information on the same subjects. This state of affairs has, therefore, necessitated the coordination of efforts in collecting, processing, collating and storing agricultural statistics at a national level. The proposed "national Agricultural Information Management System" (NAIMS), the subject of discussion at this forum, should be made to operate in a manner that meets the yearnings for essential agricultural data. Against this background, some of the functions of NAIMS could include: collection of agricultural data from various relevant sources within the country; harmonising data and information collected; maintenance of central storage of generally acceptable data from all relevant agencies; ensuring periodic update of store information; monitoring and ensuring prompt data

from all relevant agencies; ensuring periodic up-date of stores information; monitoring and ensuring prompt data dissemination to approved users; ensuring partial or full funding of data collecting activities at the sub-system's (agency's) level, reviewing the extent of data coverage periodically and increasing it when necessary, etc.

The anticipated problems the NAIMS is likely to face in carrying out its functions include: how to meet the data needs and requirements of specialised institutions like the Central Bank of Nigeria, ensure flexibility of a national information data base as well as continuous funding to sustain the system.

The main objective of this paper is to explore ways of minimising identified problems, including the meeting of the data needs of specialised institutions and how to ensure flexibility of the system.

The rest of this paper is divided into four sections. Section 1 highlights the perceived role of individual agencies and their links with NAIMS to ensure flexibility of the system. Section II dwells on the data needs of specialised institutions and the characteristics and uses of the data produced by an institution such as the Central Bank. The third section discusses the relevance of a functional NAIMS to the Central Bank is particular and other specialised institutions and the economy in general while section IV concludes the paper and provides some suggestions for further enrichment of the NAIMS.

SECTION 1

ENSURING FELXIBILITY OF THE SYSTEM: DEFINING THE ROLE OF INDIVIDUAL AGENCIES AND THEIR LINKAGE TO THE NAIMS.

Data to be compiled and published by the National Agricultural Information Management System would be obtained from various agricultural data producing agencies and institutions such as Agricultural Project Monitoring and Evaluating Unit (APMEU), Livestock Monitoring Evaluating and Coordinating Unit (LIMECU), the Central Bank of Nigeria (CBN), Federal Office of Statistics (FOS), Federal and State Ministries of Agriculture, etc. As in the past, there is a high probability that the data these agencies will produce, even on the same subject matter, will vary considerably and the uses to which these data would be put by these agencies would also differ. In order to accommodate the peculiar needs of some specialised agencies and institutions and at the same time have a national character, it would be important that the NAIMS operate a very flexible system which would allow the major sources of agricultural data some degree of autonomy.

Consequently, an attempt is made to identify the roles individual agencies would play in order to contribute to smooth operation of the NAIMS. Firstly, each agency should have the primary responsibility for collecting agricultural data in its area of jurisdiction. For instance, it is expected that LIMECU would produce information on Livestock Production, Marketing and Prices, while the Central Bank of Nigeria, which is the apex of the financial institution in the country, would be responsible for the production of information on agricultural credit and finance. Secondly, all agencies, departments and institutions that collect and or maintain secondary data on. The same fields should, together with representatives of the NAIMS, meet periodically to reconcile and produce generally acceptable data on such fields of agriculture. The Federal office of Statistics, the Central Bank of Nigeria and Agricultural Research Institutions come to mind in this regard. Thirdly, a particular agency responsible for the production of specific primary agricultural data should ensure storage, retrieval and dissemination of such data which would have been generally acceptable. Such a process would minimise some adverse effects of excessive centralisation of these functions in NAIMS. Such adverse effects include delays, repeated enquiries by a particular user and an unnecessary bugging of the system. Since data production, collation and dissemination are not costless, the funding requirements for sustaining the proposed system would have to be identified.

SECTION II

MEETING THE DATA NEEDS OF SPECIALISED INSTITUTIONS.

In the course of fulfilling their statutory responsibilities, many agencies and institutions have

had to turn to other sources for supplementary information. For example, the Central Bank of Nigeria has had recourse to request for and obtain secondary data from other agencies on the major sectors of the economy to supplement internally generated data. Some of the major problems encountered by the Bank in the process of collecting essential data from other agencies and institutions include inadequacy of data supplied, delays, non-response and, in some cases, lethagic attitude of respondents.

Data obtained from some agencies have been found to be inadequate. This problem has been exercebated by inconsistency of data produced on the same subject over a period of time. Rather than carry out sample surveys designed to improve the quality of data, some agencies depend on estimates (or guestimates) from field officers as proxies for authentic figures. This procedure often results in conflicting information even from the same source.

Some agencies on receiving questionnaires from the Bank either lock them up in drawers or filling cabinets and forget about them until either a reminder is sent or A staff of the Bank goes in person to retrieve such questionnaires. Even when officers of the Bank go out to retrieve questionnaires they still meet with some difficulties. These difficulties include - relevant officers not being present; officers being too busy to respond to questionnaires, officers not being mandated by their chief executives to release information, officers appearing not to recognise the importance of such information to the Bank or to the economy. Other institutions also experience difficulties similar to those highlighted.

Measures taken by specialised institutions, particularly the CBN to overcome data constraints

Partly as a result of some of the problems highlighted above and in realization that it must perform its duties, the Central Bank has deviced some measures to minimize some of the problems. These measures include:–

(a) Sample Surveys: The Bank undertakes series of sample surveys in order to obtain certain agricultural data especially in the areas of production, prices, exports, credit and farmers' income. These surveys have been carried out mainly by staff of the Agricultural Finance and Research Department of the Bank. Some staff at the Zonal and Branch offices of the Bank participate in these surveys. For each survey exercise, decisions are taken on the sample size, the areas of coverage, the crop and other information required, and sampling procedure. Questionnaires are then drawn and given to field staff involved for distribution. Although this method has been found to be successful, it is used occasionally when important reports and studies are being prepared.

(b) Impressionistic Surveys: These, like the sample surveys, are often conducted with the aid of our Branch and Zonal offices. Selected officers make use of questionnaires, meet respondents and record their answers to impressionistic questions on various subjects.

(c) Visit to Agencies to extract information from records and publications: Staff of the Bank also visit agencies responsible for the production of vital information and with the cooperation of staff of the agencies extract information directly from the records kept by these agencies. The Bank also depends on some international publications for some of its requirements for information. Having indicated some problems the CBN encounters in the area of agricultural data collection and discussed measures normally taken to overcome data constraints, it is essential to delineate the types and uses of agricultural data collected or produced by the CBN.

Types and Uses of Agricultural Data by the CBN

The Central Bank of Nigeria compiles both primary and secondary agricultural data. The secondary data are mainly those obtainable from other sources. Agricultural data produced by the bank could be classified into the following broad groups:

(i) Agricultural production statistics-yield rates, aggregate output of both arable and perenial crops, livestock, fisheries and forestry;

(ii) Land utilisation statistics-hectarage planted to various crops;

(iii) Agricultural price statistics-both domestic and international market prices of major agricultural commodities and in-

dices of world market prices;

(iv) Agricultural commodity trade statistics-imports and export quantities and values;

(v) Agricultural finance statistic-institutional credit to agriculture;

(vi) Economics of production and marketing-cost of production, inputs, cost and capacity of storage; transportation and processing; and

(vii) General information on infrastructural development, activities of the Agricultural Development Programmes (ADP), River Basin Development Authorities (RBDAs), Research Institutes; etc;

The uses to which the above categories of data are put by the Central Bank include:

1. Appraisal of government policies and decisions on agriculture: Data and figures facilities assessment of past and present performances of the sector in order to establish appropriate possible future development objectives and strategies;
2. Projections: Making projections is one of the useful tools of planning. Statistics are required for both the base year as well as for making underlying assumptions before projections about future expectations can be made;
3. Appraisal and Evaluation of Projects: Agricultural projects brought forward for funding or guarantee require to be appraised for viability before funds could be committed or guarantees provided. If such projects are found to be feasible and thus funded, there is usually a need for continuous evaluation of the performance of such projects in order to ensure repayment of credit granted;
4. Estimation of Gross Domestic Product (GDP): Data on production, prices and value of the agricultural sector and other sectors of the economy are required for the estimation of the GDP as well as the determination of the relative contribution of the agricultural sector to the Gross National Product (GNP);
5. Computation of Balance of Trade/Payments: Agricultural trade statistics are usually required for the calculation of these macroeconomic indicators.

SECTION III

RELEVANCE OF A FUNCTIONAL NAIMS TO THE CENTRAL BANK AND OTHER SPECIALISED INSTITUTIONS.

Before we discuss the relevance of a functional NAIMS to the Central Bank of Nigeria, it is deemed necessary to illustrate trade briefly how agricultural data are relevant to effective execution of some functions of the Bank.

The traditional functions of the Central Bank include the formulation of monetary policy (control of money in circulation, stipulation of credit guidelines for the various sectors of the economy) and advising the government on both economic and financial matters. It would be seen that for the Bank to effectively determine the credit needs of the various sectors and make policy recommendations, it would require adequate information on the performance of the sectors, agriculture inclusive. Similarly, in computing economic indicators necessary in formulating policies as well as giving sound advice to the government, the Bank also requires data from all the sectors of the economy.

Apart from its traditional banking functions, the Central Bank also performs non-traditional functions such as development financing. As Nigeria is a developing country, the Central Bank has had to go beyond the performance of traditional functions in order to assist the government in the development of the economy, with special attention paid to agriculture which is considered a priority sector. It was in this context that the Bank first took up direct financing of agricultural commodity marketing via the Marketing Boards and later Commodity Boards from 1968 to 1986 as well as running the Secretariat of the Technical Committee on Producer Prices during the same period. From 1977, the Bank was given the responsibility of managing the Agricultural Credit Guarantee Scheme Fund thus providing financing indirectly for agricultural production. In 1987, the Bank further took into its portfolio the financing of agricultural export through its Rediscounting and Refinancing Facility (RRF). However, this function (RRF) and other export finance functions have been transferred to the recently created Nigerian Export/Import Bank (NEXIM).

Judging from some of the above-mentioned functions the Bank has been performing in

order to contribute to the development of the agricultural sector, the importance and relevance of agricultural data to the Bank can hardly be in doubt.

With the foregoing background, we shall now dwell on the relevance of a functional NAIMS to Central Bank of Nigeria. For a functioning NAIMS to be of use to the Central Bank, data produced and disseminated by the NAIMS should be and must be seen to exhibit the following attributes.

(a) Availability: for information to be made use of, it must be available. Availability should also be in an economically feasible manner;

(b) Timeliness: Timeliness in the availability of relevant information is of utmost essence. Time is a critical element in the use of agricultural data. "Late data" is almost as bad as no data. Not only should data be up-to-date when required, they should also be available on a regular basis, depending on the periodicity of application;

(c) Accuracy/Reliability: Inaccurate and or unreliable data could result in faulty projections and analysis as well as distortions during implementation of economic programmes.

(d) Proper Organisation: For agricultural or other data to be useful, they must be properly compiled and organised so that they lend themselves to easy retrieval, processing and analysis.

A system which possesses the above-listed attributes would thus facilities acquisition and use of generally acceptable agricultural data; allow the staff of the Central Bank to concentrate efforts on their primary responsibility of helping to channel funds to the agricultural sector and monitoring and reporting on macro aspects of developments in the sector nationwide; and minimise cost as well as efforts dissipated in agricultural data gathering. The Bank would also be able to put more efforts into analysing and appraising government policies on agriculture and make necessary recommendations and suggestions for improvement.

Like the Central Bank, other specialised institutions have peculiar agricultural data needs which are in line with the specific functions and duties undertaken by them.

Such institutions are also likely to benefit from a functional NAIMS data bank in ways similar to those identified for the Central Bank.

SECTION IV

CONCLUSION AND SUGGESTIONS FOR FURTHER ENRICHMENT OF NAIMS

This paper has attempted to stress the importance of reliable and useful agricultural data to the planning of the economy in general and to the development of the agricultural sector in particular. However, the dearth of adequate, reliable and consistent/uniform agricultural statistics has been observed as a major problem that has hampered agricultural growth and development in the country.

In order to stem the problem of inconsistency observed in agricultural data, the Federal Ministry of Agriculture, Water Resources and Rural Development proposed the establishment of a National Agricultural Information Management System. The proposal shows a very good coverage of agricultural information and is expected, among other things, to harmonise data and information from various sources for purposes of uniformity and acceptability. It is however, anticipated that the system might run into the problem of inflexibility, if it is too centralised and not sufficiently tailored to meet the data needs of specialised institutions.

For NAIMS to overcome the perceived constraints and also meet the needs of potential users, including specialised institutions such as the Central Bank, the different types of agricultural data produced by the Central Bank were identified. The uses to which these data are usually put were enumerated to include policy formulation, planning, appraisal and evaluation of projects, calculation and estimation of Gross National Product and Balance of Trade/Payments. The data also form the basis for reporting on the performance of the agricultural sector in a given period. Further more, for NAIMS to be functional and relevant, information and data is produces must have such attributes as timeliness, availability, accuracy and reliability, proper organisation and must be easily retrievable and disseminated. On the basis of our perception of the proposed functions of NAIMS, it is pertinent to suggest the follow-

ing:

1. Perhaps, a generally acceptable "Aggregate Index of Agricultural Production" based on sub-sectoral total output in each of the sub-sectors (crops, livestock, fisheries and forestry) and appropriately assigned weights to the sub-sectors, should be produced on half-yearly and annual basis either by NAIMS or the Federal Office of Statistics;
2. That an adequate training programme be developed for staff of the proposed NAIMS;
3. The NAIMS should carry out a comprehensive and incisive study of data requirements of specialised institutions and other users of agricultural data;
4. A time-table or schedule for collection, collation and dissemination of data be prepared by NAIMS in order to minimise delays in its take off.

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Government and the general public in order to create the enabling environment for non-bank financial institutions which will concerned not only with profits but also with growth and development of the economy.

SUMMARY AND CONCLUSION

The foregoing analysis has examined the regulatory framework of non-bank financial institutions (NBFIs) in Nigeria. To start with, those institutions that are often referred to as non-bank have been identified. However, it is noted that in this paper non-bank financial institutions are those defined as "other financial institutions" by the BOFID. Next, the background to the recent regulatory changes were examines. It was observed that the new regulatory framework became necessary in order to allow the monetary authorities to monitor and be able to assess the monetary impact of the operations of the NBFIs so as to enhance monetary management.

Moves to keep the NBFIs under closer surveillance in the interest of the national economy culminated in the CBN and the Bank and Other Financial Institutions Decrees of 1991 which brought under regulation, for the first time, the various operators in the informal financial sector whose impact on the economy can no longer be ignored. The other major achievement of the new laws is the provision designed to enable the monetary authorities obtain relevant information from and to impose guidelines on the NBFIs and other sectors in order to improve monetary management.

The powers assumed by the Central bank with regard to non-bank financial institutions as outlined above, have the potentials for improving the Bank's knowledge of the financial system and the economy. This is expected to enhance the effectiveness of monetary and exchange rate policies and thereby contribute to the maintenance of monetary stability and sound financial structure. However, this would require enormous human and material resources, improvement in infrastructural facilities such as computers and telephones and the cooperation and assistance of the NBFIs, the general public and the Government in order to enable the CBN to effectively monitor and regulate the institutions.