DELIVERY OF AGRICULTURAL SERVICES IN PNG: ADB'S PERSPECTIVE

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ABSTRACT

The paper outlines the Asian Development Bank's (ADB) perspective on the delivery of agricultural services in PNG. The problems of research and extension are examined. Solutions which could improve the delivery of these essential services to the farmers are discussed.,

***Key words**: Agricultural services, agricultural research, extension, services delivery.*

A. BRIEF OVERVIEW OF THE AGRICULTURE SECTOR

Agriculture is the most important sector of the economy in PNG as it accounts for 27 per cent of gross domestic product (GDP), about 12 per cent of total export earnings and 85 per cent of total employment. Although the mineral sector makes the largest contribution to export earnings (about 60 per cent), agriculture is the only sector in the short and medium term that has the potential to absorb the new, largely unskilled entrants to the labor force, estimated at about 50,000 per year.

PNG with a total land area of about 460,000 square kilometers and a population of 3.6 million is one of the largest countries in the South Pacific region. It has vast natural resources, and a wide range of crops and livestock can be raised in the country to meet the needs of a rising population. Unfortunately, agriculture remains primarily subsistence-oriented and heavily dependent upon a few export cash crops. Four tree crops (coffee, cocoa, oil palm and coconut) account for about 95 per cent of agricultural exports. Production of all the tree crops except coconut increased considerably from 1982 to 1989 but during recent years has declined due to declining world prices. The "Hard kina" exchange rate policy coupled with high labor and transport costs makes it very difficult for PNG to produce tree crops at competitive prices.

Although there are no reliable data on the production of food crops and livestock, recent studies indicate that the country produces a wide range of staples, vegetables and livestock. In the food crop sector, sago and taro are widely grown in the wet lowlands; yams, banana and cassava in the drier lowlands; taro and sweet potato in the highlands; and potato predominantly in the high altitude valleys. The production of tomatoes, capsicums, spring onions, potatoes and other vegetables has been recently taken up by villagers who have access to urban markets. Cereal crops such as maize and rice are not widely grown although rice is becoming ever more popular over time in urban and rural communities. At present, the country imports about 135,000 metric tonnes (mt) of rice annually valued at K35.0 million to meet domestic requirements.

Livestock production at the subsistence level is largely confined to pigs, poultry and goats. The domestic poultry industry has developed to a level where it is now capable of supplying virtually all the requirements of the commercial markets. The annual production of poultry is estimated at 1.9 million birds. At the commercial level, PNG produces 11,500 mt of poultry meat and 48 million eggs. The domestic pork industry has also grown remarkably well, and its products now satisfy almost the entire local demand for pork. Domestic beef production has remained stagnant at 2,000 mt of beef annually despite growing consumer demand, now estimated at 13,000 mt per annum. The demand for sheep meat has increased eight-fold over the last decade, from 5,000 mt to 40,000 mt as a result of lower prices of sheep meat compared with poultry, pork and beef, as well as increased total meat consumption. The Government has established a sheep industry in the Highlands with New Zealand assistance but local production of sheep meat is currently very small

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compared to imports.

Despite price support and quantitative restrictions on imports, the production of foodcrops and livestock in PNG -- with the exception of poultry, pigs, and more recently vegetables -- has remained stagnant during the past two decades. As a result, the value and quantity of food imports has been increasing. In 1991, the value of foodgrains, meat and fish imports reached $22.6 million (K 21.9 million). To reduce food imports and to achieve food security, the Government of PNG has placed a high priority on the development of agriculture. A large number of projects have been implemented by the Government with the assistance of external donors to address the problems in the agriculture sector. According to DAL, the major problems or constraints in the development of the agriculture sector include the following: (i) low productivity, (ii) poor extension management, (iii) shortage of high quality trained manpower, (iv) poor program management and lack of accountability, (v) absence of relevant and reliable farm level data, and (vi) poor market access and infrastructure (DAL 1993). This list can be expanded to include other problems including complicated land tenure arrangements, high labor cost, an overvalued exchange rate, lack of effective research and extension, and inadequate credit and marketing facilities.

This paper will examine the problems of research and extension and discuss solutions which could improve the delivery of these services to farmers. Other speakers will address other problems in the agriculture sector.

B. THE PRESENT STATUS OF AGRICULTURAL RESEARCH AND EXTENSION

Agricultural research and extension play an important role in the development of improved varieties and technologies and their dissemination to the farmers to enable them to increase farm productivity and profitability. Available evidence indicates that countries which have well developed agricultural research and extension services generally also have high farm productivity and profitability. Conversely, in countries where agricultural research and extension services are poorly developed and ineffectively linked to each other, agricultural productivity has remained stagnant. Of course, agricultural research and extension alone are not sufficient to increase agricultural productivity and profitability. Such increases also require improvements in the delivery of credit, marketing and other support services to farmers. Agricultural research and extension, however, are crucial in initiating changes in agricultural productivity and in increasing demand for agricultural credit and other support services.

In PNG agricultural research and extension are implemented by several agencies including the following:

(i) The Department of Agriculture and Livestock (DAL), responsible for research in food crops and livestock;
(ii) The Provincial Divisions of Primary Industry (DPI), responsible for extension in food crops and livestock;
(iii) The Coffee Industry Corporation (CIC), responsible for research and extension in coffee;
(iv) The Oil Palm Industry Corporation (OPIC), responsible for extension in oil palm;
(v) The Oil Palm Research Association (OPRA), responsible for research in oil palm; and
(vi) The Cocoa-Coconut Research Institute (CCRI), responsible for research in cocoa and coconut.

A recent review of agricultural research and extension conducted under the Bank-financed technical assistance for the Agricultural Research and Extension Phase II Project concluded that while research and extension services provided by the industry corporations (e.g. CIC, OPIC, OPRA, and CCRI) have made considerable progress towards improving the efficiency of research and extension in export crops, research and extension services on food crops and livestock provided by DAL and DPI have remained weak (ANZDEC 1993).

The major constraints on agricultural research services provided by DAL include the following:

(i) the cumbersome Government bureaucratic system in which they operate,
(ii) a complex organizational structure,
(iii) lack of research focus and prioritization,
(iv) poor communications between research and extension,
(v) research resources dispersed among many research establishments,
(vi) insufficient operational expenditure for conducting research,
(vii) insufficient well trained technical staff,
(viii) lack of motivation of researchers, and

(ix) lack of interaction with the international scientific community.

The major constraints on agricultural extension services provided by DPI include the following:

(i) inadequate organizational structure,
(ii) ineffective training of extension officers,
(iii) insufficient operational funding,
(iv) inappropriate extension messages,
(v) poorly motivated extension officers,
(vi) lack of linkage between research and extension, and
(vii) lack of extension policy. With these problems evident it is not surprising that the research and extension effort is widely perceived as failing to meet farmers' needs.

The Government of PNG is fully aware of the problems of agricultural research and extension services and since 1982 has undertaken a number of studies, including studies conducted by the International Service for National Agricultural Research (ISNAR) in 1982, McKillop Williamson in 1982, the World Bank in 1987, ANZDEC in 1989, and the Asian Development Bank in 1993, to prepare recommendations on how to improve and revitalize agricultural research and extension services in the country. These studies have produced excellent recommendations. However, except for those related to export-oriented tree crops, most of these recommendations have not been implemented. As a result, agricultural research and extension services in food crops and livestock have remained weak.

C. NEED FOR ACTION

The development of improved varieties and technologies through research is a long-term process, often taking 5 to 10 years even though the varieties and technologies may be obtained from other countries and require only local adaptation in PNG. In addition, it will take at least another 5 years to disseminate the improved varieties and technologies through extension so that they will be eventually adopted by the majority of the target farmers. Thus, unless the Government takes urgent action to improve agricultural research and extension, the agriculture sector is unlikely to fulfill the role necessary to avoid a continual increase in the gap between domestic food production and food demand resulting from population and income growth. Furthermore, social problems will be exacerbated as rural incomes continue to decline relative to those in urban areas.

Based on the recommendations of the past studies, we would like to propose that the Government consider the following measures as a matter of the highest priority:

1. Reorganization of Agricultural Research

Many countries in the Asia-Pacific Region have established an autonomous national agricultural research organization to enable researchers to carry out research programs effectively without being hindered by government bureaucratic procedures and regulations. The results have been improved quality and productivity of research. In PNG where the bureaucratic system is a serious constraint, we support the recommendation that a statutory authority to be called the National Agricultural Research Institute (NARI) should be established with a Board representative of Government, producer, consumer and private sector interests. By combining most of the activities of the Research, Training, Food Management, Export crops, and Agricultural Protection Divisions of DAL, NARI would focus on research and training in food crops, livestock and minor cash crops and should be organized on a regional basis to enable it to coordinate, plan and implement agricultural research in consultation with local communities and extension staff.

2.Reorganization of Agricultural Extension

We support the recommendation that agricultural extension services be transferred from the provincial DPIs to the central Government as a means of strengthening extension activities and improving linkages with agricultural research. However, the Government should consider how extension services should be reorganized and whether (i) they should be merged with the proposed National Agricultural Research Institute, (ii) independently organized as a statutory authority such as OPIC, or (iii) kept within the DAL organization. The advantages and disadvantages of the three options should be carefully analyzed so that the reorganization will be able to achieve its objectives. In addition, the Government should improve the quality of extension personnel through retrenchment of unqualified extension staff and training of qualified extension officers. Until the reorganization of the extension system is effected, the needs of farmers for information and technology could be met, to some extent, by outreach programs from the existing research institutes.

3. National Agricultural Research Council

We support the recommendation to establish a National Agricultural Research Council (NARC) which will be responsible for policy formulation, program coordination and resource allocation in the research subsector. The establishment of NARC is essential because there are competing needs for research in various food crops, livestock, minor cash crops and tree crops while the Government's resources to meet these needs will always be limited. Therefore, NARC should be given a mandate to establish research priorities on the basis of the national agricultural policy, and allocate available manpower and financial resources accordingly. If this is not done, a single program could, for example, garner the major part of the research budget at the expense of other important programs. The Council should have authority over the allocation of public funds among the export commodities, NARI and other research institutes. It is suggested that the Council be chaired by a high- ranking Government official and consist of the secretaries of the Prime Minister's Department, Department of Finance and Planning, DAL and one representative each from NARI, CIC, OPIC, OPRA, CCRI and other agricultural research institutes.

4. Manpower Development

The reorganization of agricultural research and extension services as suggested above will not be effective if it is not accompanied by a systematic program to develop trained manpower. Despite the recommendations for manpower and training by ISNAR and McKillop Williamson in 1982, the number of research staff with Ph.D and MSc degrees is still very low and most extension officers have not received university or specialized training. At present, the country continues to depend heavily on the services of expatriate staff. The factors contributing to the partial implementation of these recommendations include the lack of commitment and funding by the Government, low production of high school and university graduates, and the decline in the standard of training at the Vudal Agricultural College and Highlands Agricultural College. Obviously, this issue is complex but the Government cannot afford to ignore the importance of manpower development if it is to succeed in developing the agriculture sector.

5. Support to the Private Sector

Agricultural production, processing and marketing, particularly in food crops and livestock, are and should remain primarily activities of the private sector. Farmers and entrepreneurs require assistance and support in a wide variety of areas, including production technology, selection of appropriate species and varieties, crop protection, soil management, post-harvest handling, marketing and others. Government agricultural services need to be reoriented towards providing services to the private sector so as to encourage and support a more competitive and market-oriented approach to agriculture. Such a re-orientation must include improved interactive linkages between research, extension and the private sector which ensure information flow in both directions. A basic goal of this re-orientation should be to improve private sector operations by strengthening the capability of Government agencies to focus on, and be responsive to, the sector's needs and to provide the required supporting services.

D. SUMMARY AND CONCLUSIONS

Papua New Guinea has ample natural resources to grow its own food and livestock to meet domestic demand. A wide range of foodcrops and livestock have been raised by farmers, but their productivity and quality are low and have not increased during the past decade. Research and extension play a vital role in increasing farm productivity and profitability but this objective will not be achieved unless research and extension services are reorganized and an adequate number of staff are engaged and properly trained to handle their tasks. The Bank is ready to assist the Government in implementing these reforms in agricultural services if requested, since we believe that only the agriculture sector can absorb the rapidly growing, largely unskilled labor force.

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