Priority Issues for Indonesian Agriculture

The Challenge

Indonesian agriculture is at a crossroads. Supporting the livelihood of millions of Indonesians, it needs to underpin renewed and robust growth of the economy; and be a key component of the Government's poverty alleviation strategy. Three out of five Indonesians still live in rural areas and farming is their main occupation. Historically, Indonesian agriculture has performed well, and contributed significantly to Indonesia's growth, bringing with it significant increases in employment and a remarkable reduction of poverty. This it did by focusing on the staple food crops such as rice, corn, sugar and soybeans. However, with productivity gains of most food crops slowing down significantly, and with the majority of farmers operating less than one-half hectare, such crops provide less potential for generating additional employment and income growth.

While there has been a shift towards high value agriculture, the extent of diversification has remained limited to a few regions and a few commodities within each sub-sector. Experience from neighboring countries highlights the need to support this shift. For example, in the mid 1980s when Indonesia achieved rice self-sufficiency, 41 percent of all farmland cropped was planted to rice; today the share is 38 percent, a relatively small change over a 15 year period. By contrast, rice cultivation as a share of total cropped area in Malaysia halved from 25 percent in 1972 to 13 percent in 1998. Also, as noted in a recently completed study, smallholder tree/industrial crops, horticulture, fisheries, and livestock, which presently account for 54 percent of all agricultural production, will most likely make up 80 percent of growth of agricultural output in the future. Rice will continue to be important, representing 29 percent of the value of agricultural production; however, even with high growth rates in yield, it is unlikely to account for much more than 10 percent of incremental output.

The challenge for the new government will be to reinvigorate productivity gains among rural producers, and provide the foundation for long run sustainability of these productivity gains. In pursuing this challenge, the following would be important:

1. Focus on farmer incomes; a rice focus no longer assures either incomes or food security;
2. Productivity gains are key to farmer income growth, and for this rebuilding the research and extension systems will be critical;
3. Funds will be needed for this, and could come from

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1 Agriculture Sector Review Indonesia, August 2003, Carana Corporation for USAID.
the unsustainable attempt to meet farmer credit needs through ABPN-funded revolving credit schemes;
4. Irrigated agriculture is clearly important, and should be seen as a cross-sectoral activity – the government needs to ensure the integrity of the infrastructure by more intensive involvement of water users, and improve the efficiency of water use to achieve more ‘crop per drop’;
5. The regulatory role of MOA needs both shoring up and refocusing: fake/poor quality inputs affect farmer productivity; quarantine needs to protect from imported diseases while not constraining access to imported inputs; and product standards are increasingly better defined in private sector procurement chains, not by the public sector.

Priority Areas for Attention

Key role for the Ministry of Agriculture in partnership with local governments. The Ministry of Agriculture clearly has an important role in responding to the above challenge. Its programs need to be complemented by initiatives from other national government agencies, local governments which are at the forefront of implementing the programs, and the agribusinesses, rural producer organizations and farmers, who need to be key partners in supporting this process of change. To succeed, this approach will call for greater collaborative efforts between MOA and other Ministries dealing with infrastructure, agricultural marketing, agro-processing, trade facilitation, and cooperatives. With decentralization, District agricultural Dinas staff were transferred to local governments, along with implementation of such functions as extension, regulation (e.g. input standards, product quality [meat inspection], quarantine), and data/statistical reporting. The central Ministry of Agriculture (MOA) is redefining its role in response, with a greater focus on facilitation, policy framework and resource mobilization. It retains an important role in assuring that national systems are sustained and built for the delivery of public goods, mainly for agricultural extension, regulation and research. Each of these systems is under significant pressure.

Need to increase farmers’ incomes through greater diversification. There are an estimated 24 million hectares of dryland areas whose potential is yet to be developed. Poor rural households in these areas are more heavily dependent on agriculture because non-farm rural economies are less robust. Diversification here is key, and measures which encourage livestock, vegetable intercropping, reforestation of small areas with high-value wood species, diversification into cashew or fruit, could all contribute to more stable incomes and poverty reduction in these areas. Various opportunities exist to support growth in these areas. For example, between 1996 and 2002, despite the economic crisis, per capita food consumption in Indonesia increased by 8 percent in real terms. All of this growth took place in high value foods such as animal products, fruit, vegetables, fish, fats and oils, and prepared food. Per capita consumption of low value grains and tubers actually declined. These changes have induced rapid growth in supermarkets, which have further influenced the agricultural production structure, processing, handling and marketing. Similarly, area expansion in crops such as cocoa, cashew and coffee has been rapid, particularly since 1997. These developments point towards the need to pursue partnerships with the private sector both locally and internationally, which present an opportunity to reduce the burden of service provision by the Government. The key features of agriculture in such areas are an increasing focus on cash crops and thus an interest by the private sector in financing development. It calls for better quality production, which calls for better Government regulatory mechanisms (in partnership with the private sector), and also better access to bank finance. The MOA can support a
competitive and efficient agribusiness and small holder farming systems through the development of effective legal, regulatory (e.g. to secure property rights and enforce contracts) and institutional frameworks, in order to promote commercialization and vertical integration.

**Strengthening regulatory capacity.** MOA regulates and monitors standards that affect farmer productivity (e.g. keeping fake fertilizer, bad seed and dangerous pesticides off the market; operating the quarantine system to keep animal and plant diseases from being imported) and protects consumers of agricultural products (e.g. Through meat inspection). Indonesia's regulatory framework in this domain is quite developed but attention is needed on capacity building, maintaining the integrity of national systems with decentralization, and focusing on assisting small holders to meet trade specification requirements. Private markets depend on an effective and streamlined regulatory environment, including grades and standards, food safety, bio-safety and environmental regulation, to lower transaction costs. Regulations alone are not enough, however. They must be matched by a partnership with traders, processors and producers in a system of self regulation. MOA needs to support a capably functioning agricultural product regulatory system, which is important not just for domestic consumer protection and safety, but also to gain and maintain access to international markets, since importing countries are increasingly tightening the quality/safety requirements for food products. Without attention here, a focus on productivity gains for farmers could fail to translate into welfare gains if market outlets are limited.

**Increase expenditure on Agricultural Research.** The broad-based growth in rural productivity that is an essential ingredient to rural poverty alleviation needs solid systems for generating, adapting and disseminating technology relevant to small-scale producers. Solid agricultural research and extension systems will be critical to get productivity onto a higher growth path. Indonesia's agricultural research system consists of national commodity research centers and sub-national adaptation institutes. However, Indonesian agricultural research expenditures have declined dramatically since the early 1990s compared to its neighbors. Real expenditure on public agricultural research in 2001 was no greater than in the 1995; and presently, it ranks near the bottom compared to other Asian countries in agricultural research spending relative to agricultural GDP and total government expenditure on agriculture. Indonesia provides less than 0.1% of agricultural GDP to support agricultural research in the country (less than even Bangladesh, and well below the recommended level of 1 percent); Malaysia and Thailand allocate more than 10 percent of total government expenditure on agriculture to support agricultural research, the share in Indonesia is less than 4 percent. The immediate challenges for the agricultural research system are to: (i) increase the overall level of national research expenditure despite closure of the current research projects; (ii) clarify the public funding responsibility for the sub-national adaptation institutes; (iii) counter decentralization's effect of increasing the administrative overhead costs of this sub-national system; (iv) replace the significant proportion of senior researchers nearing retirement; (v) integrate private sector agricultural research capacity as part of a national strategy; (vi) strengthen capacity in biotechnology research and (vii) and while reinvigorating rice variety and system research, nonetheless rebalancing resources and effort to give growing emphasis to non-rice commodities.

**Support New Approaches to Agricultural Extension.** Like public extension systems in many countries, Indonesia faces a major challenge to develop an effective institutional mechanism for disseminating technology relevant for small scale producers. While there is less experience in new models of agricultural advisory
services, there is growing evidence of significant benefits to decentralized extension systems that involve the private sector and civil society. A series of positive debates and experimentation in management have taken place. These have included a shift from top-down to participatory approaches, input and technology dissemination to dissemination of market and upstream information and technology, from centrally managed extension services to decentralized services, and some movement toward privatization of extension. Privatized extension services will assume greater importance in the dry land cash cropping sub sector in Eastern Indonesia since exportable commodity production is being increasingly supported by the private sector. Public extension staff are now responsible to District governments. But there are two competing models at the District level: a public extension service under a unified agency, and a fragmented extension capacity organized into a number of independent, commodity-based entities. The former model is being supported by the Decentralized Agricultural and Forestry Extension Project (DAFEP) with World Bank finance, but less than a third of District governments have so far chosen this approach. Educational qualification levels of public extension agents are being improved, but compensation appears to be deteriorating with decentralization, as more capable personel seek other employment. The present political climate of Indonesia also provides a more conducive environment for a range of rural producer organizations (RPOs) than was possible in the past. Government, particularly local government, is seeking ways to partner with these organizations, but is still developing the skills to do so, and faces difficulties because of the rapid changes taking place in these membership-driven organizations. In all of these initiatives, it is important that measures are put in place which better link agricultural research and extension; the separation of these functions within the organization of the MOA (between IAARD and AAHRD) has militated against both ensuring focus on farmer's problems while setting the research agenda, and effective dissemination of research results. The proposed Farmer Empowerment through Agricultural Technology and Information (FEATI) Project, which the MOA is developing with Bank support, responds to the above set of issues, and will aim to revitalize agricultural research and extension, and in doing so, strengthen the link between agribusiness and the farming community.

Support the development of ICT. Initiatives for developing rural information and communication technologies (ICT) provide an exciting opportunity for disseminating information to rural communities, improving research and extension linkages, and promoting rural growth. There are lessons of experience from many countries. For example, India has seen a proliferation of interesting rural information and communication initiatives in recent years. Different models, supported by the public and private sectors have been successfully tested. An example is a model promoted by ITC, a major private sector company: its e-choupal initiative is the single-largest information-technology based intervention by a corporate in rural India. By delivering real-time information and customized knowledge to improve farmers' decision-making ability, the e-choupal helps to align farm output to market demands and aims to secure better quality, productivity, and improved price discovery. Started in 2000, e-choupals today cover 6 states, 25,000 villages and reach 2.5 million farmers. In the next 10 years, ITC hopes to cover 15 states with over 100,000 villages (1/6 of all Indian villages) and benefiting 10 million farmers. The challenges facing the development of rural ICT in India are the same in Indonesia – poor connectivity, weak rural infrastructure and low human resource capacity. Despite these hurdles, rural ICT initiatives have burgeoned in India over the past five-eight years. These rural kiosks function as a communications hub, virtual academy/training center, support center for rural entrepreneurship, trading outlet, center for financial and insurance services, etc. With
decentralization and the new political and institutional environment in Indonesia, it is possible to envisage ICT for supporting rural development here too.

MOA’s efforts to provide matching grants through deconcentrated APBN funds is a step in the right direction; it should also aim to develop the DAK instrument to partner and support local government. The MOA is embracing decentralization, but is just beginning to develop tools such as fiscal incentives to enable it to work collaboratively with sub-national governments to promote agricultural programs. Nevertheless, the approach is not being used in a proactive manner to foster reform. Instead the deconcentrated funds are devolved to Districts with few conditions. This matching grant partnership is a useful approach with which to keep experimenting. While doing so, MOA needs to bring stronger management and discipline to the approach (e.g., stronger strategy foundations, identified outcome objectives, monitoring and accountability). In addition, a recent initiative by MOA to develop a DAK for agriculture needs to be aggressively encouraged, with a view to establishing national standards for improving service delivery.

MOA resources allocated for revolving funds for farmer groups could be more effectively used if routed through matching grants or the DAK instrument. Central MOA units are also making aggressive use of direct transfers of APBN directly to farmer groups’ bank accounts for use on production activities facilitated by technical departments. An estimated 40 percent of the 2002 MOA APBN was using this transfer mechanism. Support for this budget approach comes both from the DPR which views it as a way to get resources directly to beneficiaries while by-passing waste and leakage still inherent in public procurement of project approaches, and by reformers within MOA itself. These resources are typically provided as grants to revolving credit mechanisms at the farmer group level. However, the resources are allocated to specific production outcomes, with inadequate attention to microfinance sustainability, resulting in poor repayment, and degradation of the revolving fund. The national interest would be best served if these direct transfer programs were reduced and these central MoA resources transferred to facilitating strong national systems for public good provision (research, regulation, extension) in partnership with districts, using matching grants as incentives or the DAK vehicle.

Securing sustainable water resources management. The MOA will need to play an important role, working with the other concerned institutions, in tackling this key issue, as growing water scarcity is projected to slow irrigated crop yield growth. The challenges of growing water scarcity are heightened by the increasing costs of developing new water sources, soil degradation in irrigated areas, groundwater depletion, water pollution and degradation of water-related ecosystems, and wasteful use of already developed water supplies. Neglect of maintenance through the systematic under-funding of O&M has led to at least one third of the 3 million ha of government designed irrigation schemes being rehabilitated twice in the last 25 years, and the unsustainable use of the resource. The upper watersheds in Indonesia are also increasingly degraded as they lose their protective vegetative cover through deforestation and poor land management practices. Erosion of the upper catchment’s steep slopes, especially on Java causes siltation of rivers, reservoirs and irrigation canals, which in turn exacerbates flooding. In recent years GoI has developed a localized water-management model that places the Water User Associations at the centre place of decision-making, and in close cooperation with the local government. The experience shows that such associations are effective in enhancing good water use, leading to higher productivity; innovative water uses (crop diversification, fisheries development, etc.); better income generating opportunities; sustained preventive
maintenance; and a more positive partnership between local government, its farmers constituency and national line agencies. This model has been piloted and is gradually being spread over many of the districts in the country. However, because of the cross-sectoral character of these activities, MOA is encouraged to build upon these achievements, and extend its cooperation and coordination with other line agencies that have sectoral mandates in irrigated agriculture and local government support, notably the Ministries of Settlement and Regional Infrastructure, and of Home Affairs. In addition, securing protection and equity for existing non-formalized customary rights to water resources will be a prerequisite to establish an orderly, equitable and transparent processes of water re-allocation to be able to continuously meet communities’ changing needs. This would require strengthening the nascent basin organizations (Balai PSDAs) approach to water resources management in order to better manage scarce water resources and to optimize their allocation.

Improving Rural Infrastructure: The responsibility for the provision of rural infrastructure, in particular rural roads, also does not lie within the domain of the MOA. However, it is clear that investment in local level infrastructure that link of rural populations to markets and services has seen a significant slowdown, resulting in a deterioration of existing facilities. While there has been a lot of emphasis on the arterial and major road development, a thrust for expanding and improving the rural road network is urgently needed. In particular, village to market access roads are critical for the rural poor, and for supporting the intensification of agriculture. Kabupaten roads make up 72 percent of the classified road network; almost half of this network is in poor or bad condition, and only 19 percent is in good condition. Evidence from Indonesia and other developing countries indicates that in rural areas, higher non-farm incomes prevail in areas with good rural infrastructure due to strengthened linkages between farm and non-farm activities, rural and urban area, and development of SMEs. Moreover, studies have indicated that high transaction costs in Indonesia, caused by various factors including poor rural infrastructure, result in the farmer’s share being as low as 25 to 30 percent of the gross value of high value products.