ACIAR Indonesia Research Project

WORKING PAPER 99.26

A RURAL DEVELOPMENT STRATEGY FOR INDONESIAN RECOVERY

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March 1999

A joint research project on

Linkages Between Indonesia's Agricultural Production, Trade and the Environment
funded by the Australian Centre for International Agricultural Research,

between

CASER (Bogor) • CIES (Adelaide) • CSIS (Jakarta) • RSPAS (ANU, Canberra)

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ACIAR

CASER/CSIS/CIES/ANU
joint research project on

Policy analysis of linkages between Indonesia's agricultural production, trade and environment

Rapid economic growth in Indonesia has been accompanied by significant structural changes, including for its agricultural sector and its unique natural environment. Recently questions have been raised about the impact of Indonesia's agricultural, industrial, trade and environmental policies on sustainable rural development. The nature of interactions between the economic activities of different sectors and the environment are such that an intersectoral, system-wide perspective is essential for assessing them. An international perspective also is needed to assess the impact on Indonesia of major shocks abroad, such as the implementation of the Uruguay Round agreements, APEC initiatives, or reforms in former centrally planned economies. There is increasing pressure on supporters of liberal trade to demonstrate that trade reforms at home or abroad affecting countries such as Indonesia will not add to global environmental problems (e.g., deforestation, reduced biodiversity). Again, this requires system-wide quantitative models of the economy and ecology, because typically there are both positive and negative effects at work, so the sign of the net effects ultimately has to be determined empirically.

To begin to address these issues, the Australian Centre for International Agricultural Research (ACIAR) has generously provided funds for a collaborative 3-year project (to mid-1999) involving the University of Adelaide's Centre for International Economic Studies (CIES) as the lead institution, Bogor's Centre for Agro-Socioeconomic Research (CASER) which is affiliated with the Ministry of Agriculture, Jakarta's independent Centre for Strategic and International Studies (CSIS), and the Economics Division of the Research School of Pacific and Asian Studies (RSPAS) at the Australian National University in Canberra. Being based on Indonesia with its rich diversity of environmental resources (and on which there are relatively good data) and its rapid economic growth, the project could also serve as a prototype for similar studies of other developing countries in Southeast Asia and elsewhere.

The key objective of the project is to assess the production, consumption, trade, income distributional, regional, environmental, and welfare effects of structural and policy changes at home and abroad particularly as they will or could affect Indonesia's agricultural sector over the next 5-10 years. Among other things, the analysis will focus both on the effects of economic changes on the environment, and on the impacts on Indonesia's agricultural production and trade of resource and environmental policy changes. The implications of regional and multilateral trade liberalization initiatives and Indonesia's ongoing unilateral trade reforms will be analysed, along with other potential domestic policy changes and significant external shocks such as the entry of China and Taiwan into the World Trade Organization. The analysis will draw on and adapt computable general equilibrium (CGE) models such as the national INDOGEM Model (built as part of an earlier ACIAR project) and the global GTAP Model.

The project is being undertaken in close collaboration with the Indonesian Ministry of Agriculture and ministries involved in trade, planning, and the environment. A Research Advisory Committee has been established to encourage close collaboration of representatives from those and other ministries.

ACIAR INDONESIA RESEARCH PROJECT

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A RURAL DEVELOPMENT STRATEGY FOR INDONESIAN RECOVERY

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March 1999

The past year and a half has been a period of stress and distress for Indonesians who, after several decades of palpable economic progress, saw the jobs and income of many suddenly reduced or disappearing altogether. The ripple effects of this economic implosion have been felt widely. A first order of business is to restore the livelihoods and security of those who have been economically dispossessed by retrenchment and adjustment. This is a concern that others in this seminar will be addressing. This paper addresses some longer-term questions of how the economy could be returned to a pattern and pace of growth that meets social as well as economic criteria of success.

Some analysts have attributed Indonesia's impressive economic growth in the recent past to its embracing liberal policies and having an economy open to foreign investment, incipient industrialisation, and free trade. We can see now, however, that although there were public bows in these directions, these conditions were rather imperfectly supported during the previous regime. The high-level capitalism that flourished was marked more by cronyism than by competition. The hand of bureaucracy remained quite heavy and possessive. The successive five-year plans (*Repelita*), while they were not controlling, guided state efforts that far outweighed external initiatives. The economy was less open than advertised. That it grew as well as it did, achieving substantial reductions in the incidence of poverty during this period, is hard to explain by looking only at the factors emphasised in 'the Washington consensus'.

More basic factors, well understood in development theory, appear prominent when trying to account for the preceding decades of economic progress. Probably more than any other single factor, it was the *agricultural sector,* expanded mostly by smallholder activity, that propelled the economy. This energised and sustained other sectors through forward and backward linkages and through demand creation. Indonesia is an excellent example for Mellor's theories (1966) on the role of agriculture in economic development.

Second, the government made extensive investments in *human resource development,* particularly in basic education and primary health care widely distributed. These opportunities mobilised energies and talents at the rural grassroots that gave impetus to development not just in favoured regions and urban areas. The mobility of human resources increased considerably, though not as fast as that of capital. State efforts promoting transmigration out of Java were more than offset by movement in the other direction by persons pursuing more productive opportunities with optimism promoted by steady of expansion of the economy.

Third, even though the government in Indonesia at the highest level defaulted on the norm of *equity*, it supported this value at lower levels. And while exhibiting many inconsistencies, it operated more *coherently* than most other governments in the Third World. *Accountability* is a highly desirable quality in governance, and its absence precipitated the downfall of the Suharto regime. But throughout the country there was considerable *predicability* and clarity about the directions of development. This is essential for mobilising people's confidence and their investment of energy and resources. The government projected a steadiness that provided a welcome mental umbrella under which millions of people could pursue their economic advancement. Stability in frameworks for private and public decision-making was broadly beneficial.

The faults of the old regime were many. Some of the most prominent failings were: insufficient political participation; repression of critics; overcentralisation of policy and its implementation; inconsistent efforts to protect the environment and the country's heritage; preoccupation with exogenously-based, capital-intensive industrialisation; and not basing Indonesia's development on the fullest and best use of its own resources.

But there is no need to dwell on such shortcomings. The challenge for Indonesians – their representatives, their businesses, their farms, and other enterprises – is to learn from this experience and to chart new directions that will be more productive and sustainable, as well as more equitable. This paper, based on observations of Indonesia's recent past as well as of other countries' experiences, addresses various *balances and tensions* that need to be resolved if the country's economic strategy is to satisfy the needs and aspirations of Indonesians as they seek to make the next century much more broadly and solidly beneficial for them than the one now ending.

Some cautionary comments about strategy

There is an image of strategy that comes from the military origins of the term and suggests that this is essentially a deductive exercise, choosing one course of action rather than a different one. In battle, depending on whether one is attacking or defending, one focuses one's offensive or defensive forces in a few "strategic" locations to get the most effect from them, whether trying to penetrate vulnerable points if attacking, or strengthening weak points if defending.

However, this conception of strategy overlooks the fact that *both* offence and defence are needed for success *in either mode*. To concentrate only on either mode risks having one's offence placed in the defensive if one's forces are not adequately protected across the board; or one's defence will sooner or later be overwhelmed unless the attackers can be put on the defensive. From this comes the adage that the best defence is a strong offence.

These observations are made not to enter into a discussion of battlefield strategy, but to point out that even in military action, strategy is not an *either/or* proposition. It requires a blending of contrasting, even contradictory objectives and postures. This does not mean one should always do equal amounts of everything. That would hardly deserve being called strategy, because success requires some uniquely appropriate and usually unbalanced allocation of resources to achieve either offensive or defensive objectives, as suggested by Hirschman's arguments (1958) in favour of "unbalanced growth." We need to be concerned with trade-offs because the world is always zero-sum in at least some respects; we operate in relatively closed systems at least in the short run. Unless there are unlimited resources available, our challenge is to *optimise* the use of resources, *both at any point in time and over time*, in order to achieve desired ends.

Thus we cannot operate effectively with simple deductive models that tell us what is *generally* preferable, other things being equal, because the world is never equal, and neither is it static. A simple strategy of *maximisation* is appropriate only when there is a single overriding objective. We will do better by adopting a *both/and* perspective that proceeds inductively and adaptively at the same time that we reckon deductively and purposefully. Rather than trying to advance in simple sequential style, following pre-set game plans, we need to combine varied, sometimes contrary actions. It is by balancing different investments and policies that we can produce complementary changes, which achieve diverse yet compatible goals.

This complexity makes the formation and pursuit of strategy less glamorous, indeed, often messy. It exposes strategy formulators to criticisms of inconsistency. However, this can be defended and presented in principled terms. Charting a path between conflicting values and contrasting practices should not be – or be presented as – *ad hoc*. It is not a matter of opportunism but of *optimisation*, as noted already. There are some values and principles that are widely accepted and supported within society that can help to determine and justify balancing points decided on between divergent and contrasting aims.

The next section discusses a number of elements for a development strategy that seeks productivity, sustainability and equity as outcomes. The principles underlying it should be applicable also to efforts at recovery. This analysis considers the values and rationale that can assist in deciding and defending a strategy with the long-term aims just listed. The overall justification for such a strategy, one that does not fasten on just one or a few policy thrusts, is that any single policy direction by itself is likely to encounter the macroeconomic equivalent of diminishing returns.

Any economy maintains itself through complementary and interdependent dynamics – supply and demand; capital stocks and income flows; consumption and investment; land, labor and capital. That some choices will seem paradoxical, even contradictory, should be cause for careful analysis and assessment, but it should not lead to heading off in a single direction – to grasping just one horn of any particular dilemma.

It may be easier for persons familiar with Asian philosophical traditions to recognise the need for striking balances and for living with tensions than for persons raised in the Occident, who are more disposed by training if not belief to see the world in *either/or* terms. However, decisions in any case need to be communicated in ways that do not seem to be just convenient or self-serving. They need to be decided according to principles and criteria that can stand up to scrutiny and challenge. The following discussion is intended to contribute to a constructive debate on the constituent domains in rural development strategy and on the choices to be made among and within them.

Thinking about these issues in more complex, *both/and* terms is all the more important for Indonesia because it now operates in a more complicated economic environment than when it embarked on a reconstruction of its economy some 30 year ago. The forces of globalization – in commerce, in finance, in communication, in personnel, in institutional reach, in economic interdependence – all mean that policies need to be justified within a larger arena, and with more stakeholders having a veto if not a voice.

The basic theme of the following discussion is that economic decisions – while avoiding autarky and efforts for self-sufficiency, even for a country as large and diverse as Indonesia – should aim to *optimise the productive use of a country's own resources*, human, natural, capital and intellectual. This I would suggest is a better measure of progress and of the satisfaction of human needs than is maximising economic growth, because utilisation of resource inputs in the production process creates claims on output. Such a strategy thus contributes directly to *both* productivity *and* welfare.

When a country employs its own resources less than fully, not only will the production of some goods and services be forgone, but those persons whose resources remain unused will be marginalised in the distribution of benefits from production. Whoever has not contributed to the stream of goods and services available will have to depend on handouts and trickle-down. This is not the kind of economy or society that most Indonesians desire for their and their children's future.

Seeking balances amidst tensions

Rural urban relationships

The most basic challenge is to understand *rural development* in broader terms than in the usual narrow sectoral way. Rural development is not just development for rural areas, the latter defined according to standard demographic criteria as whatever is 'not urban'. Any residual concept of what is 'rural' misses the point of great and growing *interdependence* between rural and urban areas.

The rural areas in all countries are open social and economic systems, not closed ones. There is usually a fluctuating flow of population (labor force), capital, and information back and forth between cities and towns and the countryside. The resources for rural development that can be mobilised from the cities are several times whatever resources the government can invest, though on balance, net resources are often being drawn out of rural areas to finance urban development and to expand industrial and service enterprises.

No government in Indonesia can afford to neglect rural development, leaving this to the interplay of market forces. If rural areas sink into economic and social stagnation, they will shed labor much too rapidly, with rural-to-urban migration overwhelming the opportunities for urban employment. This will also overburden already strained urban infrastructure, particularly waste disposal and water, in addition to transportation and public services like education and health. Public hygiene and public safety also suffer.

If migrants are pushed out of rural areas more by misery than by attraction to productive employment opportunities elsewhere, there are net losses rather than gains. Those most likely to leave rural areas are persons who can do the most to uplift their home economies and societies. This exacerbates the downward economic and social spirals outside of towns and cities that can drag down these aggregations of population too. One hears less talk these days about 'the magic of the marketplace' as a sufficient remedy for urban problems; market forces by themselves are even less suited for rural areas because these have very permeable boundaries and can be easily drained of their assets.

Conversely, if rural areas are productive and thriving, they provide market demand for urban areas as well as for their own enterprises. The workers and entrepreneurs they produce are not only more skilled and experienced but motivated by drives more stable and forward-looking than desperation. These factors are elaborated in Chapter 1 of Krishna et al. (1997).

An argument for seeking deliberately to promote rural development, as complementary rather than competitive with urban development, does not, however, justify state planning and controls. Without being mesmerised by any presumed "magic" of the marketplace, any realistic rural development strategy must recognise and capitalise on its potential dynamism and motive power. Enlisting and benefiting from this requires appropriate policies, infrastructure and cultural and political support that regard rural areas as *open* systems. These complement the economies and communities of urban agglomerations – and their peri-urban concentrations of population.

Rural development needs to be an explicit objective of national policy to restore the Indonesian economy. Government actions should strive to ensure that communities throughout the country – rural, urban or peri-urban – offer adequate opportunities for employment, security, human development, and personal fulfilment. If and when urban areas provide more satisfactory opportunities than rural ones, this creates a win-win situation between rural and urban development, offering a kind of Pareto optimality.

The change from previous thinking about rural development is to take more explicit account of what *private sector* activity and initiative can accomplish in rural areas. Government should take cues and, even more, suggestions from rural people in such varied roles as citizens (voters), entrepreneurs (investors and employers), farmers and artisans (producers), consumers (demand creators), worshippers (representatives of a moral community), parents (wanting good education for their children), and bank depositors. Both responsiveness and accountability are essential. (More on this below.)

The bureaucratic predisposition to deal with rural areas as being distinct from – and with different needs and interests from – urban and peri-urban areas should be resisted. Here is a good example of where *both/and* thinking is essential. The needs and opportunities of rural areas should be addressed concurrently with those of urban and peri-urban areas, appreciating the many possible intersections and synergies between the two.

Agricultural vs. Industrial Development

Rural development is commonly equated with agricultural development. It is true that (a) agriculture is practiced predominantly in rural areas (although there is now increasing thought given to 'urban agriculture' as the extent and benefits of urban gardening is more appreciated), and (b) rural development is not possible without dynamic agricultural growth. But any successful agricultural sector is supported by and contributes to non-industrial activities in the surrounding area.

Our tendency to dichotomise leads to our thinking separately about agricultural and non-agricultural development, which includes but is not limited to industrial development. There are predictable requirements for agricultural development: (a) assured access to land, the basic factor of production in agriculture; (b) attention to preserving the natural resource base of soil, water and healthy ecosystems; (c) diversified and appropriate agricultural services and inputs – credit, seeds and breeding stock, tools and implements, and, where rainfall is insufficient, water; (d) continuous development and dissemination of new practices and technologies; and (e) equitable and efficient marketing arrangements. In Indonesia, for the foreseeable future, smallholding farmers will not only be the most numerous among the farming community but will have the majority of land area under their management.

This listing of requirements makes agriculture look fairly self-contained, but some of these needs come from or are affected by activities *outside* of the agricultural sector. Indeed, relationships that look competitive may be conducive to agricultural development. Where non-agricultural employment opportunities are developing rapidly, this raises the wage rage for agricultural labor. This in the short run is adverse to the profitability of agricultural enterprises. But such a trend greatly benefits smallholder households, which rely on their own labor supply and commonly hire out some of their labor for agricultural or non-agricultural employment. The smaller the landholding and the poorer the household, the more it benefits from higher non-agricultural wages.

Over the longer run, farming operations that depend on hired labor also benefit from non-agricultural development and higher wage levels as landowners are induced to invest in raising labor productivity. This follows from the analysis of 'induced innovation' by Binswanger and Ruttan (1978). Such transformation ultimately benefits both the owners of capital and of labor in the agricultural sector. A 'cheap-labor' strategy for agricultural development is not good for either agriculture or industry if one thinks in terms of decades rather than just year-by-year. Accordingly, agricultural and non-agricultural development should be understood and promoted in more dialectical terms than is encouraged by strict sectoral thinking.

Mao Zedong in China proposed an apt metaphor for characterising development strategy: *Walk on both legs – take agriculture as the base and have all-round development.* One should not try to choose between agricultural and non-agricultural development since both are essential for national development. But agriculture should be considered as the foundation for a strong and growing economy for all of the reasons enumerated in Mellor (1966) and Thorbecke (1969). This will also provide the resources and impetus for vigorous and broad-based rural development to the extent that millions of households, large and small, all are able to raise their productivity and gain attractive remuneration for their efforts.

Investing in rich or poor farmers

When seeking to accelerate agricultural production, a crucial choice needs be made: whether services and policies, as well as subsidised research, infrastructure and other support, should be provided more to (a) larger-scale farmers who have more land and capital and who employ others' labor, or (b) smaller-scale operators who rely mostly on their own and family labor to utilise their available land and capital most productively.

Recognising that either/or choices will produce sub-optimal results, one should attend to both groups, and to the often very dynamic group of middle-range producers. But there are some reasons to tilt policy in favour of smaller producers. First, larger farmers are reasonably able to advance their own interests because of greater education, wealth, status, and political connections, so they do not need special attention. More important, smaller holdings almost everywhere are farmed more intensively, with more labor invested per unit of land, and thus they have higher output per hectare (Berry and Cline 1979; Johnson and Ruttan 1994). In a country where land is relatively scarcer than labor, land productivity should be emphasised. To do otherwise means that neither land nor labor as factors of production will be used to their fullest.

Policy and investment decisions that favour increasing the utilisation and productivity of abundant resources help to 'expand the pie'. This approach particularly produces goods and services that are demanded by the poorer sectors of society, whose needs can only be given effective expression if their resources are employed, by creating what is called 'effective demand'. Existing patterns of market demand that reflect prevailing (skewed) patterns of income distribution will not lead to such a pattern of production. Such patterns cannot be created overnight, however, simply by fiat. Policies that contribute to fuller employment of the labor and land resources of the poor will enhance both productivity and welfare. The latter is a consequence of the poor having greater purchasing power so that their needs have more weight in the setting of market prices. More value will accordingly be attached to the satisfaction of these needs.

Perhaps most important as a consideration of development strategy and public policy is that whenever the productive potential of the poor is not fully realised, less goods and services are contributed to the economy than would be otherwise possible. This deprives the whole population as consumers of possible satisfactions from these foregone goods and services. Helping the poor to become more productive is not good only for them, giving them more purchasing power and more capacity to meet their needs on a self-sufficient basis; it is good for the rest of the society, which accordingly has a larger volume of goods and services available. The purchasing power that the poorer sectors gain in this process of full employment of resources thus also has benefits for others.

This is why the Indonesian government's policy of 'rice self-sufficiency' pursued during the 1970s and 1980s was probably its most important official measure for poverty alleviation. The gains in agricultural productivity that enabled the country to become virtually self-sufficient in rice by 1984 were fairly widely dispersed geographically and across sizes of landholding. These increases brought down the real price of rice, which was itself a boon to the poor. They put purchasing power in the hands of millions of rural producers scattered around the country. This spurred economic as well as agricultural development, creating non-agricultural income opportunities that in turn spurred more economic activity.

The implication of this analysis is that resource allocations should not be conceived in 'zero-sum' terms, as being made just *between* richer or poorer farmers. This is a static view. Considering dynamic inter-temporal effects, where development for one group benefits persons in other groups over time, has been the basis for the advocating 'trickle-down' strategies of development. Gains by the rich were said to lead to more employment, income and consumption for the poor. One can argue with equal force logically, and with greater force ethically, that productivity gains by smaller farmers should be promoted with the anticipation that they will percolate upward, giving more opportunities for broad-based economic growth.

What such a strategy will not do is preserve a large supply of cheap agricultural labor that larger producers can hire and exploit. Such a strategy, while profitable for individual large producers, is not similarly beneficial for society as a whole. This argument gives no warrant for discriminating against or penalising larger farmers, or middle-sized ones. But it asserts that social gains and net productivity will be greater from government efforts to assist and accelerate smaller farmers' economic performance, assuming that larger ones can make progress with less official encouragement. This is essentially what occurred under the government's rice promotion programs in previous decades. These programs produced arguably the most successful policy accomplishment of the previous regime, reducing dependence on food imports at the same time poverty was alleviated, achieving substantial gains in terms of both economic productivity and social welfare.

Stressing domestic production vs. international trade

In the contemporary world, it makes even less sense than ever to seek self-sufficiency of production, approaching the hypothetical condition of autarky where a country has neither imports nor exports. A choice between production for own consumption or for export is a forced and a false one, however. There is no reason to believe that total reliance on trade and international market signals and forces will be optimal, especially for a country as large as Indonesia, with such a diversified resource base.

Whenever people in a country import and consume goods and services from another country, they are creating employment and income abroad. This is not an undesirable thing if imports can be paid for by the export of one's own goods and services: (a) that create compensating domestic employment and income; and (b) that are produced more efficiently, with less demand on domestic factors of production than would be required for equivalent domestic production.

This is not the place for an extended discussion of the advantages and disadvantages of international trade. It should be evident that an ideal rural development strategy creates a structure of domestic production that yields an optimising combination of goods and services (i) for export and (ii) for own consumption in terms of satisfying people's needs.

Given the pressure that producer interests can exert on policy makers, it is often forgotten that governments have an obligation to their citizens as consumers as well as producers. Persons feel losses more keenly as producers than they do as consumers and thus they are more active politically to press their interests as producers. However, this is not as perverse a psychological asymmetry as is sometimes supposed. Put most simply, people cannot be effective consumers unless they are successful producers.

Accordingly, a government needs to give careful attention to encouraging a structure of production that utilises as fully as possible the land, labor and capital of its citizens. This theme has been sounded previously to provide a basis for making strategic decisions within and between sectors. In this case, the sectors to be optimised between are those for export and those for domestic consumption. The same principle applies. Measures of output are not as reflective of combined productivity and welfare outcomes as is fullest possible employment of domestic resources.

Favouring labor or capital?

The conventional view in economics is that resource allocation decisions should maximise the productivity of the scarcest resource, which is commonly capital. This has led to a curious inversion of thinking that encourages countries to try to advance on the basis of those resources which they have relatively least of, and to leave underutilized their most abundant resources. Not by accident, such thinking enhances the power as well as productivity of owners of capital rather than of those persons who have only and must rely on labor for their livelihood and security.

Labor is commonly left underemployed in the name of making capital maximally productive, rather than allocate capital so as to make the country's greatest resource, its labor, most productive. A more labor-centred strategy offers the advantage of optimising between welfare and productivity. While this may not maximise productivity as such, welfare will be greater, and their joint value is greater than when either one is maximised. The conventional approach ensures that most of the returns to economic activity, and most of the gains from productivity increases, will go to those who own the scarcer resource, capital.

The implication of this analysis is that capital should be used to make labor as productive as possible, rather than the other way around, utilising labor to make capital maximally productive. Since labor is more abundant than capital, this converse strategy should yield higher levels of productivity and welfare if we can think through what it implies in practice. The difficulty we face is that this is a novel way of thinking, and there are few criteria and even fewer precedents to guide us. We are at present mentally biased toward having labor serve capital, rather than vice versa, employing capital to make labor productive.

As in the preceding considerations, this is not an either/or proposition. Neither capital nor labor is productive *by itself*, and both require some inputs from the realm of nature for achieving most productive purposes. Any strategy that provides no incentives and rewards to capital will be as deflationary as one that gives labor no incentives or rewards.

The task is to find rules for sharing the benefits of production so that all contributors of essential resources consider themselves fairly rewarded. Their costs of maintaining and increasing the resources need to covered plus some income to compensate for effort, investment (foregone consumption), risk (possible loss of assets and/or income), and other factors that affect motivation to contribute to particular production processes.

The implication for rural development strategy is that those who possess land, labor or capital, the three major factors of production, need to be considered as partners in processes of production. To the extent that they cooperate and are equitably rewarded, these processes can continue and will expand. Any efforts by any one partner to impose or achieve a zero-sum allocation, ie., to profit at someone else's expense, will impede these processes and will cause everyone to forego the benefits of positive-sum cooperation.

Proposing such dynamics does not make them easy to achieve. There is a long legacy of exploitation and of conflict over the allocation of benefits. But previous analyses and evaluations have proceeded on an uneven playing field, with theoretical rationalisations that favoured the owners of capital over all other participants. As long as a society accepts democratic aspirations and values, the welfare of all persons, most of whom possess relatively more labor than capital, should be weighed equally.

The distribution of benefits should thus be considered alongside how much is produced. Indeed, *what* is produced is also important: whether these are things that increase the well-being of most people or just of a minority, eg, wholesome foods, inexpensive shoes and public transportation vs. cosmetics, fancy wristwatches and high-priced cars. With an unequal distribution of income, luxury goods command higher prices and more are produced; however, this does not necessarily mean that a higher level of production as valued at prevailing market prices is producing more aggregate satisfaction for the population. It could well be less.

On the other hand, an extreme income-redistribution strategy will not necessarily produce greater welfare. Such policies are likely to impede the expansion, not to mention the maintenance, of productive capacities that increase the availability of goods and services.

A realisation that effective strategy requires *both/and* approaches immediately cautions against choosing distribution over production, because without the latter there is less to share.[1]

There is, certainly, justification for seeking a more equitable distribution of *assets* if not trying to reallocate income. The analysis here supports policy efforts to broaden people's access to land (natural resources), capital (fixed and working), and human resource development (skills and knowledge). Simply redistributing income can be a disincentive to expanded production, conferring benefits disproportional to the bearing of production costs. But distributing assets more broadly gives more people the menas to contribute more to the production process.

Those assets which are zero-sum require *re*distribution, though even land, the prototypal scarce resource, can in effect be 'created' by

[1] The rationale for thinking in both/and terms as a reflection of the nature of reality is discussed in Uphoff (1996: 280ff).

investments in irrigation that lead to double-cropping. So even land access in certain situations could be given to some persons without depriving others of what they already have (the test of Pareto optimally). Growth with redistribution – sharing disproportionately the gains from increased economic production with the have-nots – could be done without reducing in absolute terms the well-being of the haves (Chenery et al.). To be sure, the relative power and advantage of the latter would be reduced, but that should be acceptable in a democratic society.

In particular, human resource development represents an investment with important positive-sum characteristics. Expenditures on health, education and other means to enhance people's personal vitality and productivity (such as opportunities for travel, exchange visits, mentoring, apprenticeships) do not take away assets from persons who already have these, though such investments do diminish the benefits that accrue from any monopolistic power and advantage.

An attraction of human resource development is that it offers long-run gains even to the more privileged, even if it reduces their privileges in the short-run. When disadvantaged sections of the population become more educated, skilled and motivated and are more fully employed, they can contribute more goods and services to the economy. This means that a larger volume is available for everyone to enjoy, also at lower cost (price), other things being equal.

With such a strategy of human resource development, there need to be policy and cultural changes that establish an expectation that education is not just to enable people to *take* jobs, but also (indeed, even more) to *make* them. The understanding has to disappear that the public sector is to be a source of employment and always available as an employer of last resort. The government should not be blamed when not everyone finds satisfactory employment.

Members of society generally need to undertake the initiatives and make the investments that identify and meet demands for goods and services. Those who cannot or will not make jobs will have to be satisfied to take them. Such persons have to be prepared to accept that there will be greater compensation for those persons who assume more responsibility, whether for taking the risks of investment and establishing new enterprises or for managing operations with attendant risk of failing to balance expenditures and revenues.

The aim of policy cannot be equality, but it can be equity. Persons who have talent and drive to take more risks or to take on more responsibility should not be denied this opportunity for lack of education, health, experience, or social acceptability. Indonesia today probably has a less equitable society than 30 years ago. On one hand, over the past three decades, the expansion of middle and upper classes has contributed to more equity in one dimension. But on the other hand, human resource development at the highest levels has become more controlled by wealthier families who invest in private education and other advantages for their children. Persons born into poor families now have less prospect of moving into the top ranks than when public schooling was the norm for all and bright, motivated children from any class had more chance to advance, because there were few private schools advantaging the privileged minority.

When a society has its ablest members in positions of responsibility and leadership, all persons benefit, even if never equally. Inequality is more pronounced, and less productive, when positions are filled more according to connections than to capability. When a few families benefit from being able to monopolise the best educational opportunities and hence the best jobs in banking, business, bureaucracy and other areas, society as a whole loses out. Eventually even these few families will experience losses within a socio-economic system that is guided more through inheritance than accomplishment.

So rural development strategy, as part of national development strategy, should stress human resource development at all levels, so long as this does not just increase pressure to expand government employment, and it occurs within a policy framework that enhances general access to productive assets. The emphasis is on leveling the economic playing field, not leveling incomes, and on enhancing productivity, not redistributing income. Some inequalities of income should be acceptable, even welcomed, if they are justifiable in terms of contributions to the meeting the needs of society and its members.[2]

Balancing Present and Future

The most often discussed choice in thinking about development strategy concerns trade-offs between resource uses that produce present benefits and those expected to yield greater benefits in the future. This is conventionally presented as a decision between consumption and investment – or a choice between consumption and savings that are converted directly or indirectly into investment.

In Indonesia's present circumstances, there is little question that priority needs to go to restoring living standards and security to previous

[2] Using economic terminology in this discussion incorrectly implies that we are (and should be) concerned only with *private* (individual) production and consumption. However, the production or consumption of goods and services, aggregated into gross national product (GDP) or national income, should not be considered as the single or sole criterion of economic success. Rather the goal should increasing people's satisfactions, broadly conceived. Many of the things that people need for their security and satisfaction are not purchased or purchasable through private transactions and must instead be created and provided as *public goods*. These are not necessarily provided by the public sector. Public goods are goods or services that not individually consumed or consumable, either because they are not readily *divisible* so that they could be bought and sold, or because their consumption does not *subtract* from their availability for others.

levels. Many people have suffered greatly from the 'adjustments' which occurred once confidence in the continuing viability of an inequitable and mismanaged economy plummeted. We saw the collapse of banks suddenly insolvent once the extent of extravagant (and unsecured) lending was recognised, the retrenchment of enterprises that had prospered only through government favouritism, and cutbacks in public employment to make up for shrinking tax revenue. All reflected excess consumption by insider borrowers, crony capitalists, and public sector workers not justified by their actual productivity, and superficially rationalised as being supportable by increased future earnings which were unlikely ever to materialise.

Unfortunately, many other persons suffered because their jobs and earnings depended on the flow of this 'excess' liquidity within the economy. Foreign investment contributed to this flow – and to the retrenchment when it was withdrawn – but it was not as important a factor in the increase or decrease as were domestic economic decisions and actions.

The collapse was triggered by a currency crisis, as both Indonesians and foreigners lost confidence that the rupiah could cover all financial obligations at its pegged exchange rate. The Indonesian economy was far from equilibrium, as the volume and intrinsic value of the goods and services it produced were clearly insufficient to match the claims that could be made upon these considering currency, stocks and debentures in circulation.

Some now see restoring the confidence of investors and getting an infusion of foreign capital as a prime solution for reviving the economy. This can add to the momentum for any recovery, but it is unlikely to contribute more than 10 to 20 percent of the resources needed to get economic activity revived. Any greater reliance on foreign capital would mean that a very large share of Indonesia's fixed assets, whether capital or natural, would be alienated to external ownership.

Any sale or liquidation of Indonesian assets, whether stocks and bonds or land and forests, cedes control over enterprises and the environment and over their resulting streams of income to foreigners *in perpetuity*. Recognising this, most of the investment to restore the economy should come from domestic sources as Indonesians with large and small stocks of assets venture again to enlarge these with their own and others' savings. Even if the pace of recovery is slower this way, Indonesians will be better off in the longer run.

In the present situation, there will definitely be a trade-off between current consumption and future income gains. However, rebuilding productive capacity in the agricultural sector is much different from in the industrial and commercial sectors. In the latter, the enterprises and banks that collapsed were not based on realistic assessments of need and demand; millions and billions of rupiah were lost in the collapse, and much financial ground needs to be recovered. More than working capital is required for manufacturing and trading concerns; complex teams of personnel need to be knit together to manage and operate these. In the banking sector, large amounts of capital must be assured as well as systems of management in which all parties – borrowers, depositors, regulators – have confidence.

In agriculture, the factors of production remain pretty much in place. What is needed is current demand and price relationships that are sufficiently attractive to justify expanded scales of output. As before, marketing – more than credit – will probably continue to be the most important constraint on production because with assured and remunerative markets it is much easier to justify and secure credit.

Too much can be made of the distinction between consumption and investment: whether resources should be devoted to meeting present *or* future requirements. Virtually all present decisions about resource use have implications for the kind of structure of production that will exist in the future: what kinds of good and services will be produced then, what kinds of investments will look more or less attractive, what kinds of skills will be developed or discouraged, what natural resources will be available or not.

A fixation on *how many* resources can be set aside for investment to create future income streams should not obscure consideration of *how* economic activity in the present is being undertaken – what biases or inducements for future development are being created in this process? This is another example of how *either/or* thinking interferes with wise use of resources, casting choices narrowly in terms of trade-offs when they might better be framed in terms of maximising positive externalities. The goal is to maximise well-being over time, recognising that some expenditures, such as on education and health, can have characteristics of being both consumption *and* investment (Morgan 1969).

The present vs. future debate arises specifically with regard to the use of a country's *natural resources*. In a country as rich in these as Indonesia is, it is tempting to sell large tracts of forest or mineral or fishing rights to secure income which can both alleviate current distress and help create capital and enterprises for restoring economic momentum. But the observation above that such alienation is permanent should be kept in mind.

It is likely that any referendum among Indonesians that gave them a choice between increasing present incomes (by a fairly small amount per capita given Indonesia's huge population) and retaining control over these natural resources for future generations would favour the latter.

An optimising development strategy may include some accelerated sale of natural resources, but probably not much.

There is a danger that under conditions of economic distress, individuals and communities without any title to certain natural resources may be inclined to draw these down for short-term gains. They have no assurance that if they refrain from exploiting these resources, others will also refrain. But when there are arrangements, preferably sanctioned by legal procedures, that give recognition and responsibility to communities for the preservation of forest and other natural resources, these are more likely to be conserved from encroachment than by purely government protection or by the presently ambiguous status quo relationships.

CIIFAD has been working with NGO, university, government and community partners in the Nusa Tenggara Community Development Consortium since 1995. We have been impressed by the willingness of communities living in and around protected areas to make accommodations in their cultivation and extractive practices if they become engaged in analyses and discussions to assess and assure long-term natural resource viability, and if they are given both rights and respect. Some government actors are already aware of the learning that this Consortium's activities have produced, but this should become more widely known. The Ministry of Forestry is currently well-disposed toward taking some positive steps to promote community-based natural resource management.

Bridging between centre and periphery

Indonesia has been, in political and administrative terms, one of the most centralised countries in the world. Even within the small island of Java, having 6 percent of the country's land area but 60 percent of its population, most districts feel subordinated by Jakarta. People in the outer islands, given the greater distance and poorer communication from the capital, may not be actually as thoroughly dominated. But there is discouragement of initiative and innovation.

There are important issues of democratisation involved in redressing the imbalance between the center and periphery of the country. In fact, many persons living in the center (Jakarta) are presently peripheral within the country, being marginal within its economy and society, so this concept is not simply geographic. Here we are addressing the developmental aspects of decentralisation. These reinforce the claims made for more democratic governance but have their own rationale.

When decisions are made by persons occupying positions of authority at the center, there is a *natural tendency for bias* in decisions, since people (a) necessarily make decisions from their own vantage point, and (b) generally make decisions for their own advantage. But this obvious way in which decision-making under conditions of centralisation will tend to be sub-optimal, reflecting human nature, is probably not as important as two structural biases that are not simply a matter of perception and motivation.

With a high degree of centralisation, there is bound to be *poorer use of resources* because not all information, needs and interests can be taken into account. This is especially true in a country as large and internally diverse as Indonesia, where local conditions, constraints and opportunities vary considerably. A greater degree of localised decision-making will facilitate more efficient and appropriate application of available resources to solving priority problems.

As important, with centralisation it is *more difficult to mobilise local resources*. These are not known as well at the center as on the periphery, and they are less likely to be contributed to enterprises that are determined by the center without concurrence from the populace.

This is not just a matter of mobilising material resources, although this is an obvious and significant way in which centralised systems are limited in their capacity to stimulate investment and development. While taxes can be levied and collected, by coercion if necessary, more broadly based and more voluntary systems of resource mobilisation are generally superior.

The resources which are most foregone with a centralised system are non-material ones. There is underutilization of people's mental and managerial capacities if they are expected just to implement others' decisions, rather than come up decisions that they judge to be best suited to local conditions and needs, improvising means to make them a reality. In centralised systems, there is a presumption that persons at the center are more intelligent and capable than those at the periphery. In a meritocratic system there could be some basis for this belief. But when it comes to solving specific problems, local intelligence is commonly superior because it brings particularistic knowledge and relevant experience to bear on finding and implementing solutions. Such knowledge and experience is ignored or poorly applied under centralisation.

Does this mean that complete decentralisation is the best strategy? Not really. There are many decisions that are best made at an aggregated level in order to provide frameworks, resources, authority or protection for lower-level decision-making. Our understanding of the wisdom of *both/and* approaches naturally cautions against advocating either extreme. Both centralised and decentralised processes of decision-making offer advantages and disadvantages, and each can help to make the other more effective.[3] It is thus a matter of seeking optimal allocations of authority between and within levels of decision-making.

The principle that is important at all levels is *accountability*, which has been inadequate in the Indonesian political system in recent decades. One of the ways to correct for this is to strike a better balance between the executive and legislative bodies. The political pendulum has swung almost entirely in favour of executive and administrative decision-makers, with direct representatives of the public greatly constrained as to what they could determine. The pendulum should not now swing fully to the opposite extreme, however. As in other matters, balance is key, with each governmental body able to contribute different kinds of expertise.

For purposes of economic development, it is important that the aspirations and priorities of the public be well articulated so that government efforts are directed where they are most needed and desired, and so that they can mobilise the requisite resources and cooperation for successful action. For this, the legislature has clear advantages over the executive. For carrying out decisions, however, the latter is better equipped. It is tempting for members of the legislature to get involved in implementation, even though this is likely to impede the process if involvement goes beyond the role of oversight.

Finding an appropriate balance between executive and legislative functions, one part of the center-periphery balancing act, will be difficult because executive power has been abused in Indonesia, and there is an understandable rejection of such authority. The legislature needs to maintain sufficient autonomy in the years ahead to be able to act effectively as a watchdog and critic, yet being constructively critical and helping to improve governance rather than stalemating it.

Most important, the legislature needs to avoid falling into the mindset, so common in parliaments around the world today, of using authority simply to allocate available resources to certain members' and their constituencies' respective advantage. When majority coalitions take advantage of their numbers to appropriate goods in their favour, they do this at the expense of minority members and their constituencies. This is a *zero-sum* manoeuvre which does not add to the volume of goods and services available. Most often it ends up reducing these by disincentives for the minority and by inducing complacency in the majority.

'National interest' is a concept that has often been used by parliamentary majorities to justify ignoring the interests and ideas of minorities, much as executives often use this as an excuse to assert their

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[3] Leonard (1997: 213) comments that: "In a decentralised administrative structure, the center needs to be every bit as strong as in a centralised one, but the reorientation requires is one of [providing] technical services rather than of hierarchical control."

will over legislatures. There should always be a large burden of proof whenever such a claim is made since there are almost always valid competing and conflicting interests to be reckoned with. These interests cannot be easily or fully satisfied, at least in the present, given available resources. Sub-national interests should be taken seriously, and their accommodation should not always be regarded as an act of compromise or capitulation. Their satisfaction contributes to overall well-being and to maintaining the kind of mutual regard and cooperation that helps a nation advance.

At the same time, there are decisions that should be taken with some intention of serving larger, broader and longer-term interests than may be appreciated and pursued by actors who take less encompassing views. It is not automatic that executives or parliamentary majorities will have such views; statesmanship can be found in legislatures and in minorities. But it is important that national decision-making not be reduced to immediate needs and lowest-common-denominator terms.

Getting a productive balance between the interests and actions of both center and periphery, including a balance between executive and legislative bodies, is one of the greatest challenges for economic development strategy, not just for the realm of politics. Despite other less desirable aspects, the Suharto regime did manage to project more national-interest rationale into decision-making than seen in many other countries. In the corrective measures that now need to be taken, it will be important for those who are modifying constitutional arrangements to find ways to empower provincial, district and local decision-makers, particularly legislative representatives, without immobilising central leadership.

Linking theory and practice

Perhaps the most summary challenge is to utilise the best current theoretical understandings about how economic development proceeds without being their captive. The world has been changing dramatically in the past decade. Globalization presents us with the most visible shifting of institutional and decision parameters, but other transformations are continually occurring. Strategic decisions need to be informed by theories, but both decisions and theories need to be tested by practice. An informed pragmatism is called for which draws on both inductive and deductive reason, not being swept along by either to the neglect (or derogation) of the other.

Neo-liberal, market-oriented policies have merit, but their superiority has been inflated by the miserable performance of their opposite, centralised command economics generally referred to as ‘communism’ or ‘socialism’. Indonesia’s current economic problems are only partly attributable to free-market policies because, as noted at the beginning of this paper, there was no consistent application of such principles. This does not vindicate neo-liberalism, however, and imply that marketplace 'magic' is the solution to present ills (see Ormerod 1994).

It is important that any government in dealing with economic affairs bring words and deeds into closer consonance than seen in Indonesia in recent years. Hypocrisy and subterfuge both end up discouraging economic activity more than stimulating it. This also means that policy and implementation need to be aligned.

Recognising that there will be no perfect reconciliation between theory and practice, between words and deeds, between policy and implementation, a general principle should be that the government strive for *consistency* in these. As suggested already, the main amount of investment for recovery will come not from the government or from foreign sources, but from Indonesians in all walks of life.

To give encouragement as well as guidance for private investment decisions, the government should be transparent in its economic policy making and pronouncements. It should draw on theory to avoid purely ad hoc, and thus unpredictable, decisions. This will also make the decisions more beneficial to the extent that the theory is correct – and correct for the particular time and situation.

Close attention to impacts and results, creating feedback to adjust and revise the theoretical underpinnings of decision-making, is necessary. The world itself is changing, and the theories that explain its workings are themselves subject to change. A theory is, after all, an explanation, and few believe any more in immutable relationships that are much less abstract than that the interaction of supply and demand produces higher or lower prices. As soon as 'laws' are refined with qualifications such as elasticity or time preference, the accuracy of any prediction depends more on these specifications than on the 'laws' themselves.

Unfortunately, within the economics profession there is a strong tendency for economists to be either quite 'theoretical', meaning abstract and deductive, or 'empirical', ie., concrete and inductive. Both modes of thinking are needed, with the latter ultimately more important because it is the test of the former. Theory should inform and guide practice, rather than practice be treated simply as a test of theory.

As Indonesia seeks to marshal its material and mental resources for recovery, it would do well to have more open and active debate on economic strategy and directions, including also less conventional views than those of neo-classical orthodoxy, devastatingly challenged by Ormerod (1994). It is important to proceed with as much consensus as possible, and at the same time to rigorously monitor and evaluate results. There is a fine line between following consistent policies and directions, on the one hand, and making empirically-based adjustments in a timely way, on the other. The latter is what is needed, as is greater capability for acquiring and analysing relevant data in a timely manner.[4]

A guiding principle and criterion for efforts in this area is *consistency*. This involves, among other things, maintaining a self-critical approach to theory, data and experience. There needs to be internal consistency for both theory and data and also consistency over time. Striving for the latter should not, however, preclude changes that reflect learning and evolution in policy as the real world becomes better understood and as changes in how it works become evident.

It has been widely commented that Indonesia's rapid economic progress in the past was guided by a small circle of economic advisers, sometimes referred to as 'the Berkeley Mafia'. Drawing on the best available thinking on economic relationships is wise, though economic logic often fell victim under the previous regime to particularistic interests and hidden ambitions that undercut the application of theories.

Given the democratising ambitions of *reformasi*, no more 'Mafias' are acceptable. But their equivalent would be appropriate to institutionalise in more participatory form. An *economic policy forum* could bring together government, university, NGO and foreign expertise to debate alternatives, review progress, produce relevant new thinking about how best to improve economic performance, and consolidate theory and contemporary evaluations into some consensus on preferred economic policies.

Since this paper is presented at a CASER seminar focusing on the agricultural sector, perhaps this suggestion should be tailored to guiding agricultural and rural development strategy. But the logic is applicable for trying to advance the whole national economy.

Summarisation of points

The main theme of this paper has been that strategy is not a matter of choosing *between* alternatives but of fashioning *balances* among contending, even contradictory, lines of activity. The paper has

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[4] During 1993-96, CIIFAD discussed with BAPPENAS developing a collaborative relationship to help strengthen Indonesian capacities for doing more sophisticated and mutually consistent modeling, but these discussions never culminated in any agreement. A precondition for effective modeling was to have the best possible set of data to work with, rather than having several independent and inconsistent data sets as has been the case in the agricultural sector. In April 1995 the Ministry of Agriculture, the Ministry of Food, and the Central Bureau of Statistics took the useful step of agreeing to harmonise their respective sets of data for the food sector. However, much remains to be done before Indonesia will have adequate data and sufficient human resource development to do its own modeling and evaluative analysis commensurate with its size and importance, not relying on external consultants all with their own different models.

identified and discussed several major ‘axes’ along which rural development strategy can be analysed and formulated, with the aim of optimisation rather than maximisation because of the complexities and interdependencies involved. These focuses for strategic analysis and decision are summarised in Table 1 below.

The paper has suggested also some broadly agreeable principles or criteria, summarised in the right-hand column of Table 1, that can be referred to when making and justifying decisions that are intended to achieve productivity, equity and sustainability. While other objectives can be considered as well, these three objectives are deemed the most essential. The first holds the key to restoring standards of living and having more goods and services to meet human needs; the second is most visibly demonstrated through poverty alleviation; and the third depends on ensuring that the natural resource base as well as appropriate institutional capacities are preserved.

In a time of crisis, it is easy to be preoccupied with short-term problems and payoffs. While one cannot reach ‘the long run’ without getting past short-run impediments, what is done in the present should as much as possible be positioning individuals, sectors and the whole economy for longer-term success in achieving these three objectives. This is especially important for the agricultural sector and rural areas because if these do not regain and sustain their vitality, there is little hope for the rest of economy and society.

Some specific suggestions

Some implications of this analysis for agricultural and rural development in Indonesia include the following:

Regional variation

Strategy and policy should not be standardised and homogeneous for the whole country, especially given its variety and diversity. The principle of comparative advantage should be applied internally and not just with regard to decisions about production for export versus domestic consumption. The previous policy of enforce rice self-sufficiency which required each province to produce its own rice was an good example of where over-centralised decision-making led to suboptimizing outcomes for agriculture.

The reorientation of the system of agricultural research and extension that has been embarked upon with the reorganisation of research centers (BPTPs) to serve agroecological zones and with the devolution of extension responsibilities. But neither of these initiatives has yet been thought through thoroughly, with appropriate human resource development and incentives to make these as effective as they need to be for the next phase of agricultural development.

Linkage of farmers to research and extension efforts

Related to this is an overdue effort to build more participation and accountability into agricultural research and extension systems. Both functions have been carried out in essentially a top-down manner, continuing relationships established under the Dutch colonial regime. At the policy level, there have been moves toward more farmer-centred agricultural research and extension, but these have been slow to be realised at field level.

Table 1 Tensions and contradictions to be reconciled in strategy

CONTRASTING FOCUSES	Principles for Reconciling These
RURAL/URBAN	**Regional balance**; striving to achieved full employment of resources across the landscape wherever they are, not leaving the rural sector to function as "residual" only.
AGRICULTURE/INDUSTRY	**Diversification and linkage**; "walking on both legs" to utilise resources more fully and create synergies, with agriculture seen as the base for economic advancement
RICH/POOR	**Productive equity**; seeking full employment of resources especially of the poor, not just as a welfare concern.
DOMESTIC/INTERNATIONAL	**Self-reliance** tempered by comparative advantage; using resources to the fullest to meet the needs of the population, seeing that production creates claims for consumption.
LABOR/CAPITAL	**Efficiency and growth**, not divorced from distribution, however; concern with which factor makes the other more productive?
PRESENT/FUTURE	**Well-being over time**, including resource conservation and environmental protection
CENTRE/PERIPHERY	**Accountability**; decision-making to be based on appropriate knowledge and expertise.
THEORY/PRACTICE	**Empiricism and consistency**; transparency and continuous monitoring and evaluation with adjustments in theory and practice.

The value of local knowledge and farmers' expertise to the process of research and extension needs to be emphasised, with more institutional forums for researchers, extensionists and farmers to inform each other of what each needs know and what each can contribute. Regarding farmers as 'end-users' of research still implies that researchers are the sole generators, if not the final evaluators, of new research knowledge. Farmers would better be considered as *partners* in the process of creating and applying such knowledge, leading to greater local resource mobilisation for agricultural development (Uphoff 1995).

Market orientation

Any system of agricultural development needs to be more market-oriented than were past efforts promoted by the government. Its 'supply-side' approach was not sufficiently attuned to what would be demanded through the market, and whether the price commanded for products would be sufficient to cover their costs of production. Involving farmers more in the planning, conduct and evaluation of agricultural research will bring such considerations more to the fore.

The overriding importance of being responsive to market opportunities puts a premium on farmers' operations being flexible. There has been a tendency for the Ministry of Agriculture to try to find the best crop for a given region and then to promote it to the hilt. Market forces reward specialisation, but they also reward flexibility, which is often negated by specialisation, especially mono-cropping.

Researchers and extensionists, who do not share farmers' risks, need to be wary about pushing specialisation, especially if it involves heavy investment and sunk costs, when farmers are at the same time becoming more enmeshed in market transactions. One implication of this is that farmers need to become better organised to engage in marketing on a collective basis. This can improve their returns from production through capitalising on economies of scale and better bargaining power. This does not mean, however, marketing through government-managed cooperatives, as the KUDs have been more often a burden than a boon to farmers.

Climatic variability

Sadly we are seeing that farmers are not only subject to increasing price fluctuations deriving from market forces; they are experiencing increasing uncertainty of production due to increasing fluctuations in climate. El Niño is only the most dramatic of these. It at least is becoming more predictable in its timing and severity, thanks to worldwide efforts to monitor and explain weather dynamics.

Farmers in the future are likely to need to become more able to anticipate and cope with variations in climate that affect production, sometimes for the better but usually for the worse. As farmers know, unexpected bumper crops can be almost as detrimental as crop failures unless there is some way to cope with abundance that drives prices down when the market cannot absorb surpluses.

As with the preceding point, improving the marketing system to give farmers more assured access, more bargaining power, and more protection against strong fluctuations will probably do more to improve farmers' well-being, as well as their ability and willingness to invest in the expansion of production, than will any creation and provision of new technology.

Emphasis on food value and nutrition

Most agricultural departments as well as scientists around the world have emphasised production of food, assuming that if there is enough supply, their efforts will have been successful. Economists have pointed out that simply having greater availability of food does not ensure that all people will be adequately nourished. People need income, ie., purchasing power, to avail themselves of what has been produced. Food security is thus not just a matter of food supply.

Beyond this, however, there is growing appreciation that adequate and good nutrition involves more than access to food and its consumption. The quality of food, including sufficient micronutrients, is important for health status. In Indonesia as in other countries moving up the economic ladder, we have seen a considerable shift in consumption patterns from mostly plant-based diets to increasingly animal-based diets. The latter are associated with increases in a number of chronic degenerative diseases, particularly cancers, cardio-vascular and coronary heart diseases (Flood 1998).

Consequently, agricultural planners and policy makers should consider how they can encourage the production as well as consumption of foods that contribute most to human health. For one thing, shifting production and consumption toward diets associated with chronic diseases raises a country's health care costs. For another, it reduces GNP as the goods and services that would otherwise have been produced by persons who die 5, 10, 15 or 20 years prematurely are lost (foregone) as a result of diseases that could have been less common with more healthful diets (Flood 1998).

Evaluating agricultural production in terms of its contribution to human health does not mean that only grains, vegetables and fruits, beans and legumes, and fish should be eaten. Most Indonesians probably still do not consume enough meat, fish, eggs and dairy products for optimum health. But there is no apparent need for the government to encourage production of these foods in large-scale, capital-intensive enterprises. These supply mostly middle- and upper-class households which, in terms of health, are already (or will be) over consuming animal products, judging by fragmentary evidence available on increased incidence of cancers and coronary heart disease. Large enterprises do not need government assistance to meet demands arising from growing incomes of better-off consumers. Small-scale production of animal products, on the other hand, is mostly for consumption by households not yet getting enough protein and the micronutrients that animal products can supply. This can contribute positively to the health status of millions of Indonesians.

Given present tastes and preferences there is high demand for animal-based foods. This presents a real dilemma for policy makers. To accede to market-driven consumption patterns means that a so-called 'Western' diet will supersede the traditional Indonesian diet, with large resulting direct and indirect economic costs over time.[5] The government should not try to prevent shifts in consumption, but any public investments in research, extension or capital facilities that subsidise such changes are dubious. Instead, educational efforts to inform people of the health benefits of maintaining the 'Indonesian' diet, enhanced in quantity and quality where appropriate, appear quite warranted, stressing health as the most important result to be obtained from the production and consumption of food.

Best local practices

Given the present urgency to regain momentum for agricultural development, it seems appropriate to stress efforts to identify and promote what are the most productive practices that farmers are presently using. Some have been developed with advice from agricultural scientists and technicians; others have been locally devised. This is not to suggest that all ongoing research be halted. But most of the efforts of agricultural researchers and extensionists might in the short-run be directed to working with and learning from farmers, to test, validate and popularise practices that appear to have potential for wider beneficial use. Such an investment of time and thought by researchers and extension agents could indeed provide a more solid basis for devising programs that are more farmer-centred in the future than they have been in the past. This could be an unanticipated benefit for agriculture from the current crisis.

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[5] This is not considering in addition associated environmental costs. Animal products such as chicken and beef when produced in large-scale, feedgrain-intensive operations require two to six times more cropped area to produce the same nutritional value.

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