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The Role of Public Grain Stocks in Food Security:

The Indonesian Experience

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About this working paper

This working paper is one of the products of a study conducted by DAI at the request of the European Commission as part of the advisory service ASiST managed by the unit in charge of rural development, food security and nutrition (C1) within the Directorate General for International Cooperation and Development (DEVCO).

The study has aimed at clarifying the potential role of food reserves in enhancing food and nutrition security in developing countries, and at making recommendations on how to use food reserves (in complement to other tools), taking into account the specificities on the context and the constraints of World Trade Organisation (WTO) disciplines.

The study was conducted in 2016 based on i) an extensive review of the existing literature (both theoretical and empirical) and ii) 10 case studies analysing national or regional experiences in Africa, Asia and South America.

All the products of the study (including other working papers, a compilation of case study summaries, and a synthesis report) are available at: https://europa.eu/capacity4dev/hunger-foodsecurity-nutrition/discussions/how-can-food-reserves-best-enhance-food-and-nutrition-security-developing-countries.

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List of Abbreviations and Acronyms

BAPPENAS	National Planning Agency
BULOG	National Food Logistics Agency
GEP	Growth Elasticity of Poverty
INPRES	Presidential Instruction
IPPG	Index of Pro-Poor Growth
JPS	Jaringan Pengaman Sosial (Social Safety Net Programmes)
OPK	Operasi Pasar Khusus (Special Market Operations)
RASKIN	Rice for the Poor
SMERU	Social Monitoring and Evaluation Research Unit
SUSENAS	National Socio-Economic Survey

1. Introduction

Public stocks of rice have been used in Indonesia as part of its policy approach to providing food security since independence from Dutch rule in 1945, and even before (Timmer, 1975). As a broad historical generalisation, public rice stocks have played three major roles:

1. Providing wages "in kind" to civil servants to offset the impact of rapid inflation in the 1950s and 1960s, and to provision the military;
2. As buffer stocks that were used to stabilise domestic rice prices around the trend in world prices (in conjunction with regular imports and very occasional exports) from 1968 to 1998; and
3. As the source of rice supplies for the Rice for the Poor (RASKIN) programme that delivers rice directly to poor households. This programme started during the Asian Financial Crisis (and Indonesian political crisis) in 1998 as *Operasi Pasar Khusus* (OPK—special market operations) and continues to this day.

Following the terms of reference of this project, this paper focuses on the role of public rice stocks in price stabilisation and in direct transfers to the poor.[1]

That said, there have been three major approaches to food security in Indonesia over the past 50 years, and the one not discussed here—a macro development strategy that emphasised pro-poor growth and integrating the rural sector into rapid overall economic growth—also relied on stable rice prices to lengthen investors' time horizons and encourage diversification of the rural sector. Food security improved faster, and total poverty fell more rapidly, during the three decades of pro-poor growth, 1968-1998, than before or since (Timmer, 2004). Despite the focus in this paper on the role and management of rice reserves in improving food security, it is important to understand the broader macro context in which the issue of grain reserves is set.

A historical perspective is also critical. Stabilising rice prices in urban markets has long been the political touchstone of legitimacy—a reasonably stable food economy seems to be an essential ingredient in sustainable economic growth. Second, a strategy of pro-poor growth, building on the potential to improve rural labour productivity via broad-based agricultural development, brought the rural poor into the political calculus of food security (and their participation helped improve food availability and access). Third, perhaps prematurely, the country has moved explicitly to a targeted, food-based social safety net as the offset to a political strategy of wooing the political loyalty of rice farmers via high rice prices. This strategy utilises RASKIN, the state-funded programme of rice distributions to the poor that began officially during the Asian Financial Crisis in 1998 (when the Suharto government fell and a new democratic government took over). Rice reserves have been an important component of the first and third strategies, and stable rice prices were essential to the pro-poor growth strategy.

[1] This Indonesia paper does not follow the project's basic methodological guidelines very closely, mostly because of their data-intensive, micro approach. The Indonesian story is better understood within a macro, general equilibrium, political economy framework, and even then it is primarily historical and impressionistic. Some of the micro perspective reflected in the methodological guidelines appears in earlier work, especially Timmer, 1986 and 1996.

Indonesia's approach to food security is remarkably well studied and documented, from Dutch colonial days to the present. However, the rich historical record, full of repeated food crises linked to institutional learning, provides only limited insights into the future role of food reserves in the country. Even the RASKIN programme, which relies directly on the National Food Logistics Agency's (BULOG) rice stocks, is under review, but the leading research institute that studies the RASKIN programme, Social Monitoring and Evaluation Research Unit (SMERU), insists that reliable estimates of its "impact" are simply impossible. Considerable sentiment in the food policy community in Indonesia is pushing for radical reform of the RASKIN programme, including "cashing out" its benefits everywhere that food (rice) markets are working reasonably effectively. That would leave only isolated areas, mostly in Eastern Indonesia, where direct rice deliveries would remain as cost-effective means of providing food security to poor households.

Even in these circumstances, the RASKIN programme needs to be seen as part of a much broader array of social safety nets that include access by the poor to health care and effective education. Access to employment at decent wages is probably even more important for nearly all households as they seek to improve their food security. It has been understood for several decades that an effective food policy—one that is successful in reducing poverty and hunger to low levels within a generation—needs to employ all the levers of economic development, not just those available to Ministries of Health and/or Agriculture. Indonesia has a surprisingly successful record of such a broad-based, technocratic food policy approach, but whether it can continue in the highly politicised environment the country now faces is problematic.

This paper reviews the history of Indonesia's approach to food security for its citizens, and focuses particularly on the three basic ways to achieve that goal: (1) stabilising rice prices, especially in urban markets; (2) generating a widespread process of pro-poor growth that pulls the rural poor into a rapidly expanding overall economy; and (3) providing direct food subsidies to poor households—via the RASKIN programme for "rice to the poor" since 1998. The paper is organised as follows:

- Section 2 lays out the historical and political economy perspective;
- Section 3 outlines lessons learned from the Indonesian experience regarding self-sufficiency and price stability;
- Section 4 discusses the evolution of pro-poor growth policy in Indonesia;
- Section 5 reviews the design, implementation and what little is actually known about the impact of the RASKIN programme directly;
- Section 6 provides conclusions and recommendations.

2. The Historical Evolution of Food Security: a Political Economy Perspective[2]

Guaranteeing that food is available on a reliable and regular basis to all citizens is part of the "mandate of heaven" under which all Asian rulers are empowered, democratic or authoritarian. Indonesia is no exception. Its rulers have tried to maintain ready access to affordable rice since at least the 17th century. For most of its history, the main social safety net in Indonesia has been a public guarantee that rice would be available in urban markets at affordable (and stable) prices. If some citizens were too poor to access this market-priced rice, they suffered, or were helped by local community organisations. The state's obligation extended only to affordable rice at stable prices in urban markets. When the state failed in *this* obligation, it often lost power.

This Asia-wide pattern is centuries old, but it would have resulted in only a minority of urban households being food secure unless further steps were taken. There are several possible steps beyond the paradigm of stable rice prices in urban markets as the main approach to food security in Asia. One would be widespread, inclusive economic growth that brings the great mass of the population above a meaningful poverty line, so that stable rice prices in key urban markets really are a guarantee of food security to a rising share of the population (as many rural workers move to urban jobs).

Rural poverty is eliminated by two reinforcing factors—migration to urban opportunities and stimulation of farm incomes for the remaining rural population via higher commodity prices, an approach that is widespread in all developed countries. This approach is highly popular as a political strategy in Asia and has uniformly been rewarded by electoral success for parties that follow it. To work, however, this approach needs a reasonably wealthy urban middle class that willingly pays for higher food prices, and a progressively smaller and more productive agricultural workforce, i.e. a successful structural transformation.

A second approach starts the protection of agriculture much earlier in the historical process of structural transformation, when farmers (especially, in Asia, rice farmers) become a very potent voting bloc in newly formed democratic societies. Many poor households remain, in both rural and urban areas, but they are not enough to outvote a coalition of urban middle-class households who want to guarantee supplies of rice in their local markets, and farmers who want higher rice prices as a way to compensate for the loss of economic competitiveness in the production of labour-intensive crops (especially rice). This is the Indonesian story, but it also resonates in Malaysia, Thailand, and even China.

How can politicians reconcile high rice prices (to "ensure" food security via increased rice production) with the existence of a substantial proportion of households unable to afford that rice? The answer is obvious, both politically and logistically. Distributing rice directly to poor households (despite how ineffective the actual delivery system might be) is a political winner. For the food

[2] This section grows out of more than four decades of experience by the author as a policy analyst and advisor in Indonesia. It builds on an earlier paper prepared by the author for the World Bank that was an attempt to understand how Indonesia managed to stabilise rice prices for a quarter of a century, from 1973 to 1998.

logistics agency, previously charged with stabilising rice prices around a long-run trend in world prices, the reality of high domestic rice prices sharply reduces the need for those services. A new mandate, to procure rice at high prices from farmers and deliver it at subsidised prices to poor households, is also a new lease on life.

This approach, now well established as the political norm in Indonesia, is innovative when viewed through the lens of Indonesia's long history of repeated food crises and government responses. A slightly arbitrary list of ten such crises over several centuries is presented below. The list emphasises that crises have come from both too little and too much rice and that stability has been the dominant policy goal, sometimes sacrificing short-run farmer welfare in favour of consumers, and sometimes the opposite. In all these crises, however, there does seem to be an element of institutional learning, as coping mechanisms developed to keep governments in power.

2.1 Ten crises that shaped Indonesia's approach to food security

1. The Indonesian sultanates rule with a 'mandate from heaven': "rice for the people." Sultan Amangkurat I prohibited the export of rice from Java in 1655 in response to a drought that sent rice prices up by 300%.

2. The Dutch took over the rice economy of the Netherlands East Indies in March 1933, in response to collapsing rice prices in the region. Rice milling, inter-island and international trade in rice, and price formation were all tightly controlled by government agencies, most of them newly formed for the task (Boeke, 1946). The Dutch effort at government control of the rice economy in what is now Indonesia continues to resonate to this day.

3. The collapse of the Sukarno government in 1965/66, after a decade of spiralling inflation and repeated shortages of rice in urban markets, gave the new Suharto government a mandate for stability—a mandate it eagerly sought in the wake of widespread violence and turmoil during the transition. A food logistics agency (BULOG) was established to control rice prices, with a head who reported directly to the president, and with a line of credit at subsidised interest rates from the Central Bank. BULOG implemented a publicly announced floor and ceiling price for rice, with the margin between the two wide enough for the private sector to carry out most rice marketing activities. A rice buffer stock absorbed purchases at the floor price and provided rice to inject into urban markets to defend the ceiling price, with rice imports an important balance wheel in the process (Afiff and Timmer, 1971).

4. The world food crisis in 1972/73 caught the Indonesian government, and BULOG, unprepared. After several years of price stability, rice prices spiralled out of control and the government quickly tried to arrange emergency imports from a world rice market that completely disappeared for nearly a year. The response, once control was regained late in 1973, was to formulate plans for greater attention to agricultural development, to increasing productivity of the rice sector, and to keeping rice prices stable (Timmer, 1975).

5. The collapse of commodity prices in world markets in the mid-1980s, including for rice, again caught BULOG unprepared for the new contingencies. As the Dutch learned during the Great

Depression in the 1930s, surpluses are just as hard to manage as shortages, and Indonesia had significant rice surpluses in 1984 and 1985. A major re-evaluation of how to define and maintain food security in Indonesia was commissioned (Falcon Team Report, 1985). A new focus on poverty came to the fore with the realisation that surplus rice could be distributed as part of a social safety net. By 1991, BULOG had implemented a trial programme of "Special Market Operations (OPK)" to deliver rice directly to drought-stricken villages as a poverty-relief effort (Timmer, et al., 1992).

6. The focus on disposing of rice surpluses caused BULOG to lose track of its actual stock situation in mid-1994. A drought caused rice production to fall, BULOG did not respond when stocks were depleted early in 1995 before the new rice harvest started in March, and a rice crisis was in the making. President Suharto replaced the head of BULOG and the new head ordered emergency imports that arrived just in time to keep rice prices from getting out of control. Knowing what to do makes all the difference, but "business as usual" was a failure. Still, by August 1996, it was possible for the *Jakarta Post* to report: "Bulog to limit itself to poverty alleviation,"[3] a recognition of the changing dynamics in the rice economy.

7. The Asian financial crisis in 1997/98 caused Indonesia to lose control of its macro economy. Again, an important lesson was learned: it is impossible to stabilise rice prices when the macro economy and exchange rate are out of control. Out of the macro/political chaos emerged a new OPK, the "Special Market Operations" that BULOG implemented to deliver rice to poor households. This programme almost immediately became the largest element in the country's shift to targeted social safety nets (Tabor and Sawit, 2001).

8. Democracy also emerged in 1998 and the political economy of food security in Indonesia took entirely new directions. High rice prices as a conscious political choice of policy in 2004/06 became the dominant approach, with quite significant impact on the poor. RASKIN (Beras Miskin[4]), the OPK programme re-labelled as "rice for the poor," became the political "answer" to the problems for food security caused by high rice prices. Although "rice self-sufficiency" had long been a key objective of Indonesia's drive for food security, stable rice prices had always trumped the desire to restrict imports (Timmer, 2003). That political calculus changed in the first half of the 2000s.

9. Indonesia was quite successful in getting through the 2007/08 world food crisis, partly because its domestic prices were already high. When the Minister of Trade announced a ban on rice *exports* early in 2008, the world rice market took little notice—Indonesia has never been a significant rice exporter. But *domestic* consumers and traders were reassured that ample supplies were available and there was no panicked hoarding of the sort seen in the Philippines and even urban markets in Vietnam. Stable domestic prices, even if very high, were a political winner for Susilo Bambang Yudhoyono's second Presidential campaign in 2009.

10. BULOG faced rice shortages in 2015/16, the worst El Niño year on record. Some officials in the new Jokowi government tried to order imports in a timely fashion, even recalling publicly the fall of the Suharto government over spiralling rice prices during the previous worst El Niño in 1997/98,

[3] Based on an interview with the author.

[4] Beras Miskin is a new name for RASKIN that emphasises that it delivers rice (*beras*) to the poor (*miskin*).

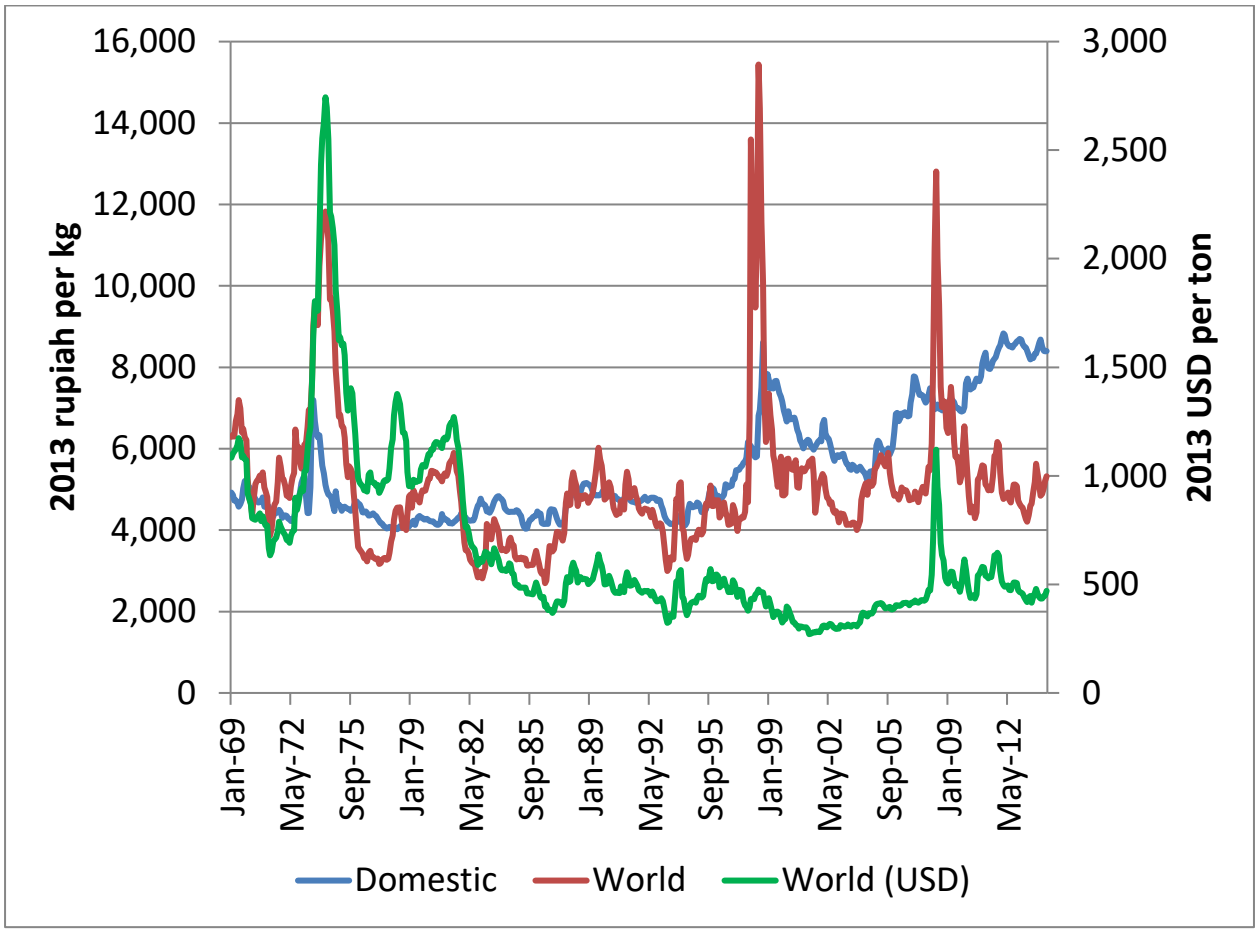
when imports were also delayed. But rice imports had become political dynamite, and a number of contracts were delayed or cancelled (although nearly a million metric tonnes of imported rice did arrive before the end of February 2016). Rice prices spiralled, BULOG had to cut back deliveries to RASKIN recipients, and once again the country learned that "rice self-sufficiency" is not food security. Nascent efforts to reform the RASKIN programme, even to convert it to cash in urban settings and rural areas with good market infrastructure, have been put on hold.

2.2 The price record

Crises focus the mind, and political action. Perhaps more importantly, they shape expectations among the citizenry and policymakers alike about appropriate public actions and private responses in a highly volatile food system. Figure 1 shows clearly that BULOG was successful in stabilising rice prices from late 1973, when it regained control of domestic prices after a good rice harvest, until the Asian Financial Crisis in late 1997.

Table 1 presents comparative evidence by time period using the coefficient of variation (CV, or the standard deviation of monthly prices divided by the mean of prices). The reference for stability of domestic prices is what is happening to world prices. As Table 1 shows, domestic rice prices have also been somewhat more stable than world prices, but the relative stability is especially striking for the Suharto era from January 1969 to right before the Asian Financial Crisis in July 1997. During this period, when BULOG was most successful in its logistical operations, the domestic CV is less than a third of the world CV. The comparison would be even more striking if it ran from late 1973, after BULOG regained control of the Indonesian rice economy (and "learned its lesson…") until mid-1997.

Figure 1: Real Rice Prices in Indonesia, Domestic (Rp), Imported from World (Rp), and Imported from World (USD)



Source: Data and graphics provided by David Dawe, FAO Bangkok

Since 1998 (and the establishment of democracy), BULOG has not been very successful at stabilising rice prices, but high rice prices seem to be the political objective rather than stable or efficient prices. It is also worth pointing out that there was a sharp spike in 1998 in "world" rice prices as measured in real Rupiahs, a spike that does not appear when world rice prices are measured in US dollars. The difference, of course, is that the Asian Financial Crisis caused the Indonesian Rupiah to collapse. It is impossible to stabilise domestic rice prices in the middle of a complete meltdown of the economy and political system.

Table 1: Real Rupiah Prices

	I. Whole period (Jan 1969 to July 2014)	II. Suharto pre-1998 AFC (Jan 1969 to July 1997)	III. Post Suharto (Jan 1999 to July 2014)	IV. Post 2007/8 food price crisis (Nov 2008 to July 2014)
Mean				
Domestic	5132.91	4303.20	6562.17	7490.28
World	4760.10	4452.22	4988.76	4928.22
SD				
Domestic	1263.43	410.94	943.61	563.05
World	1591.70	1448.70	1042.13	684.18
CV				
Domestic	0.25	0.10	0.14	0.08
World	0.33	0.33	0.21	0.14

Source: Peter Warr, Australian National University.

3. Lessons from the Indonesian Experience

Indonesia was self-sufficient in rice, on trend, for over a decade (1983-1994), a long-sought goal of rhetoric and policy. It must be stressed that increasing rice production was only part of the story of self-sufficiency and rising rice consumption. The role of prices and price stability was also important in allowing consumers to maintain a smooth trend in rice consumption even though production varied considerably from year to year.

3.1 Self-sufficiency at what price?

A key element of government involvement in reaching self-sufficiency is through the *level* of rice prices maintained in the domestic economy. Other things equal, a higher level of rice prices will increase rice production, decrease rice consumption and make self-sufficiency easier to achieve. It has often been said that Indonesia can always be self-sufficient in rice at some price; the issue is whether consumers can maintain satisfactory levels of rice consumption as well. But domestic rice prices do not exist in a vacuum. Their level relative to the trend in world market prices and to the costs of inputs to farmers (especially fertiliser prices) strongly influences the efficiency with which consumers and producers allocate society's scarce economic resources.

Stabilisation itself is also an element in domestic production and its contribution to food security. The short-run policy issue is the level of BULOG stocks considered appropriate for maintaining stable rice prices. With infinite stocks, prices can be kept completely stable, but both economic theory and experience dictate that a finite stock level cannot defend price stability under all circumstances.[5] Accordingly, an important trade-off exists. Larger buffer stocks permit a longer period of stable prices, but at costs that rise exponentially with the size of the buffer stock. Smaller stocks require that prices fluctuate more, but with substantial cost savings. The only escape from this apparent dilemma is to add a degree of freedom to the system by permitting supplies to move into or out of

[5] See Williams and Wright (1991) for a sophisticated analysis of the limits to price stabilisation with finite stocks.

the country as an additional balance wheel, once stocks are drawn down or warehouses filled up (Timmer, 1997).

Three elements of government policy interact to create the economic environment for self-sufficiency in rice, and its subsequent role in food security:

1. Public investments in rice production to maintain it on the trend of rice consumption—mostly in rice research and extension, irrigation facilities and rural roads.
2. Establishing domestic rice (and fertiliser) prices that reflect their long-run opportunity costs in world markets—a substantial, market-wide fertiliser subsidy in the mid-1980s was a major factor in boosting rice production to self-sufficiency, and the debate over fertiliser subsidies continues even today (see Timmer, 1986 for an extensive analysis of this debate).
3. Stabilisation of domestic rice prices through market interventions using buffer stocks as a balance wheel—and imports when politically feasible.

Each of these elements has powerful efficiency effects individually, as well as a direct impact on the state budget, and these effects make each component a separate, important policy issue. But the interconnections among the three elements make it impossible to set policy for one without having a substantial impact on the others. Consistency among all three elements is essential in the long run to avoid wasting substantial resources. Achieving this consistency is clearly the most difficult aspect of designing a policy to assure food security at the macro level.

3.2 Price stability at what price?

Indonesia made a policy decision in 2004 to raise domestic rice prices significantly above world prices (by preventing imports). In December 2004, rice prices in Indonesia were at parity with the price of equivalent rice imports (see Figure 1). By February 2006, however, domestic rice prices in real terms had risen by 25%, whereas the price of equivalent rice on the world market had fallen by 11% – an increase of over a third in the relative price. In March 2007, the National Socio-Economic Survey (SUSENAS) report on poverty in Indonesia reported a significant increase in the poverty headcount, despite fairly rapid economic growth nationwide.

A vigorous debate developed in Indonesia in 2006 over the causes of the increase in poverty (the fuel subsidy was also reduced in 2005 and cash transfers were arranged for poor households to compensate). The role of high rice prices, and the import ban, was hotly contested. The World Bank argued publicly that high domestic rice prices were the main factor causing poverty to increase, whereas the government and popular press castigated such views, often in dramatic fashion. A highly popular political cartoon in Kompas, a leading daily newspaper, showed a large grain harvester—labelled “World Bank”—cutting down peasants.

The vigorous and open debate late in 2006 over the impact of the rice import ban led to discussions of how to arrange imports in a timely fashion to prevent further price increases and harm to the poor. By early December 2006, the Jakarta Post ran a “Headline” story where the author argued that “Banning rice imports [is] ‘not the right option.’” Options for managing the impending rice crisis by arranging emergency rice imports were prepared for the Minister of Trade, who immediately

requested presidential permission to start the import process. A Presidential Instruction (INPRES) authorising imports was issued on 9 December 2006.

Unfortunately, there was enough political and bureaucratic opposition to prevent rice imports from arriving until late February, which was far too late to prevent a sharp spike in rice prices in December 2006 and January/February 2007. By March 2007, domestic rice prices were 57% higher than world prices. Poverty rates stayed high, and the number of "near poor" increased significantly. The high poverty rates were directly caused by the decision to restrict rice imports and keep domestic rice prices well above world prices (Warr, 2011).

Similar opposition to rice imports materialised late in 2015 and early in 2016 as the El Niño drought put pressure on domestic supplies and BULOG's ability to procure rice domestically. Stabilising rice prices as the foundation of Indonesia's food-based social safety net is clearly a thing of the past.

4. Pro-Poor Growth, Rural Households, and Food Security

After independence, when the Indonesian nation was being built, weak and inward-looking policies resulted in an increase in poverty rates. By the early 1960s, as in other post-independence states, poverty had fallen in the postwar recovery and Indonesia was muddling along with modest growth and weak but quasi-democratic governance. After Sukarno imposed 'guided democracy' in 1959, however, the situation deteriorated sharply. Adopting an inward-looking development policy and severely neglecting agriculture, Indonesia was 'a prime exemplar of the dangerously degenerative consequences of weak governance and a sickly economy' (MacIntyre, 2003). Incomes fell dramatically and the hyperinflation of 1965-66 had an adverse impact on the entire population as the poverty rate increased rapidly and the economy collapsed. Approximately 70% of the population was absolutely poor by 1966. Hunger was widespread (Timmer, 2003). Unsurprisingly, in 1968, with no hint of the future, Gunnar Myrdal observed in *Asian Drama*… "no economist holds out any hope for Indonesia."

4.1 A troubled history and chronic poverty

Throughout the 350 years of Dutch colonial rule, the trade and tax regime favoured Dutch extraction of income with dire consequences for the Indonesian population. Analysis provided by Van der Eng and interpreted by Timmer enables an examination of growth, the severity of poverty (through a comparison of the annual food energy intake measured in kcals), and the income elasticity of consumption over the past century. The record shows marked variability in both the rate of economic growth and how well it was connected to the poor over a series of political and economic epochs.

During the nineteenth century, growth in consumption was negative, estimated at -0.34 kcal/year—the second-lowest in Indonesia's measured history—while the index of pro-poor growth (IPPG)[6] was only a fraction of the long-term average, illustrating the severe disconnect between the poor and the modest economic growth that occurred during this period. In the mid- to late-nineteenth century, similar to most other regions of Southeast Asia, Indonesia's record was one of severe poverty (Timmer, 2004).

The collapse of export prices and disastrous economic management in the 1920s resulted in the lowest growth rate and least pro-poor growth period in Indonesia's recorded history. At the beginning of the twentieth century, when Dutch public opinion influenced the management of the colonies, a more developmental approach, known as 'ethical policy', was implemented for a brief period. The policy brought significant benefit to the economy (growth reached 1.63% per year) and to the poor (food intake increased an annual average of 1.39 kcal). But this internal investment in the country was brief. The collapse of world prices for export commodities in the 1920s, and the abysmal economic management of Indonesia[7] during the Great Depression, resulted in the lowest economic growth and lowest rate of pro-poor growth in any period before independence.

It is true that by then the colonial authorities had built a significant network of irrigation and transport facilities, but there was very little investment in educating the nation's population. Only 3.5% of the population was attending school of any kind in 1939, compared with 26.7% in 1995. Poverty increased significantly during World War II and the subsequent struggle for independence, which only reached closure with final acceptance by the Dutch in 1949. The tumultuous global period spanning the Great Depression, the Pacific War, and the fight for independence (1925-50), saw a marked deterioration in per capita income growth rates (-2.42%) and a negative rate of pro-poor growth (-2.57%) (Table 2).

4.2 A period of growth and rapid poverty reduction

The trajectory of growth and poverty transformed dramatically under the New Order government of President Soeharto. Starting in 1968, for three remarkable decades, Indonesia's GDP grew an average of 7.4% per annum. As a result, in 1997 Indonesia's per capita income reached US$ 906, more than quadruple the 1968 level (World Development Indicators, World Bank). When compared with previous periods in Indonesian history, the quarter century from 1965-90 saw an annual growth of caloric intake of 2.1% a year, 50% higher than the next best epoch in 1905-25 and almost ten times the long-term average. The index of pro-poor growth reached 6.56 for the period 1965-90—

[6] A crude 'index of pro-poor growth' (IPPG) shown in Table 2 is based on an analytical relationship between the overall incidence of poverty and the observed, average income elasticity of demand (based on regression analysis of the long-run, time series data). The income elasticity of food energy for the entire period from 1880 to 1990, estimated to be 0.313, is used as the long-run base, scaled to one (and highlighted in yellow). It is multiplied by the long-run growth rate in per capita incomes, 0.89% per year, to generate the long-run average IPPG of 0.89. The income elasticity for each separate epoch is then scaled relative to the long-run average, and multiplied by the growth rate in per capita incomes, to generate the IPPG for each epoch. Note that the IPPG incorporates both the growth and the distributional dimensions of pro-poor growth, and this index is thus a country-specific version of Equation 1 in "Concept Paper on Operationalizing Pro-Poor Growth," World Bank (2004).

[7] The Dutch forced the Netherland East Indies, the Dutch colonial name for Indonesia, to stay on the Gold Standard well after their regional competitors, including the Japanese, devalued.

the highest in Indonesian history—seven times the long-term average and nearly half as large again as the next best epoch in 1905-25.

Table 2: Long-term patterns of pro-poor growth in Indonesia

Time Period	Annual growth in income per capita (%/yr)	Annual growth in consumption (kcal) (%/yr)	Income elasticity of consumption for kcal	Index of pro-poor growth (IPPG)*
Dutch colonial exploitation, 1880-1905	0.33	-0.34	0.051 0.165	0.05
'Ethical Policy' under the Dutch, 1905-25	1.63	1.39	0.878 2.805	4.57
Depression, Pacific War, and fight for independence, 1925-50	-2.42	-0.78	0.333 1.064	-2.57
The Sukarno era, including the 'Guided Economy', 1950-65	1.46	0.68	0.509 1.626	2.37
The 'New Order' regime of Soeharto, 1965-90	3.45	2.10	0.595 1.901	6.56
Long-term averages, 1880-1990	0.89	0.22	0.313 1.000	0.89

* See text and footnote 6 for the definition of IPPG and an explanation of how it is calculated and interpreted. Details of the regressions are provided in Timmer, 2005, along with a full explanation of the analytical relationship between the overall incidence of poverty and the average income elasticity of demand for food energy.

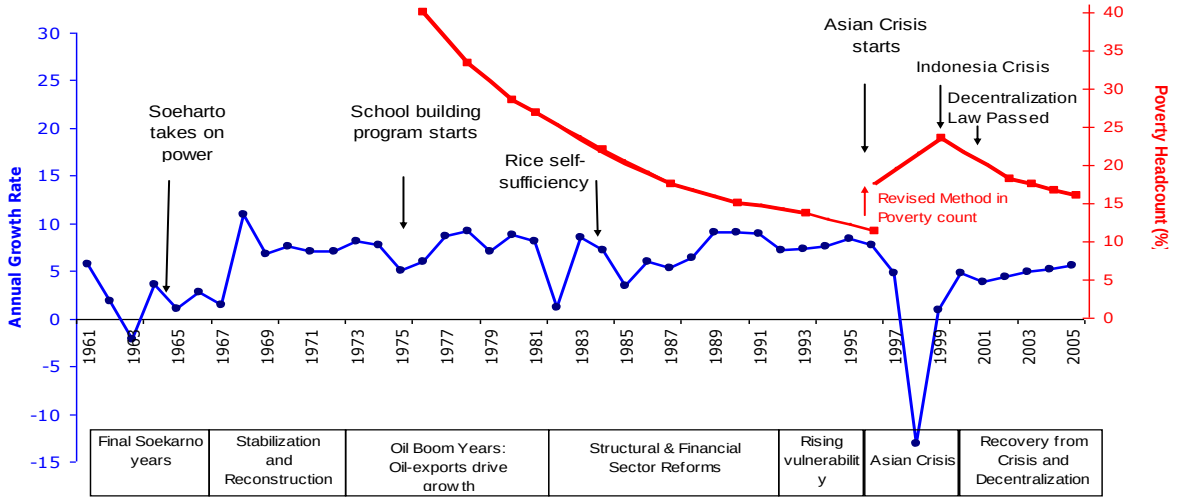
Source: Timmer, 2005.

The story of Indonesia's poverty reduction is first and foremost a story of sustained pro-poor growth. From 1970 onwards, large and sustained reductions in poverty in Indonesia have only occurred during periods of sustained economic growth: the more rapidly the country's economy grew, the more rapidly poverty was reduced; slower growth always resulted in slower reduction in poverty; and the greater the economic crisis, the more severe was the fallback. Figure 2 provides an illustration of the close connection between poverty reduction and growth. Over these three decades, each percentage point of growth rates resulted in 0.3 percentage point reduction in poverty.

The pro-poor performance for these three decades was based on a conscious strategy that combined rapid economic growth with investment and policies that ensured growth reached the poor. The strategy integrated the macroeconomy with the household economy by lowering the transaction costs of operating in markets. This strategy also effectively combined efforts to increase human capabilities and increase demand for the output from poor households, including their labour. It was designed and implemented by highly skilled economic planners (the 'technocrats') outside the political sphere, but at the direct urging of President Soeharto. Huge investments were made in the expansion of education, family planning and health. Transaction costs fell markedly through the construction of roads and other infrastructure that enabled the poor to be connected to the growth process. Sound macroeconomic management was (from the late 1970s) accompanied by a competitive exchange rate.

The continuation of sound macroeconomic management was key to the success of the boom years that followed. From 1973-83, the rapid rise in oil prices created a windfall gain for oil exporters across the world. In Indonesia, net oil revenues increased seven-fold, from US$ 0.4 billion in 1973 to US$ 2.8 billion in 1975, to US$ 4.4 billion in 1979 in response to the turmoil in the wake of the Iranian revolution. This windfall in oil revenues generated current account surpluses and increased budgetary revenues, enabling a rapid expansion of the economy and massive public investment in infrastructure, health and education. The first official poverty estimates, based on the 1976 SUSENAS, indicated a national poverty rate of 40%.

Figure 2: Chronology of growth and poverty reduction in Indonesia, 1961-2005



Source: Hofman et al., 2004.

Good exchange-rate management enabled Indonesia to stimulate an export-led economy and labour-intensive growth, ensuring the poor were connected to the country's growth.

Between 1976-78, income distribution deteriorated sharply as the real appreciation of the rupiah reduced the profitability of tradable goods production, especially in agriculture (Warr, 1984). Although the regional and commodity dimensions of poverty masked its economic roots, during the mid-1970s there was a growing awareness of income inequalities and severe poverty in rural areas.

The technocrats took a highly strategic approach to what was then diagnosed as 'Dutch Disease' and, in November 1978, devalued the rupiah, to the surprise of financial markets. Tradable goods production rapidly recovered, particularly in the agriculture sector. After 1978, poverty rates again started to decline, assisted by a significant recovery in the share of income (19.9% in rural areas), garnered by the bottom 40% of the distribution. By the end of the decade, the poverty headcount had fallen to 28.6%. Despite this, the national Gini coefficient reached what would be its highest point for the rest of the decade.

The government ensured that adjustments were made in the decade that followed. By 1983, when the international oil boom slowed and commodity prices fell, Indonesia restructured its economy and policies with devaluations and greater trade openness. Agriculture continued to grow and rice

prices were kept stable. Simultaneously, the government pursued aggressive exchange rate protection, devaluing first in 1983 and again in 1986 (Hill, 1996; Thorbecke, 1995).

The mid-1980s saw a series of trade reforms being introduced to correct the import bias and establish a pro-poor trade regime. Indonesia's new trade openness led to a significant increase in the role of the manufacturing sector. This growth in the commercial sectors created a boom in the non-tradable economy[8] where most of the poor make a living (Timmer, 1997, 2002). As the export economy boomed in the late 1980s and early 1990s, and overall GDP grew by nearly 7% annually, roughly half of that growth was made up of non-tradable goods and services (Timmer, 2004).[9] The structure of economic growth during this period led to a remarkably high growth elasticity of poverty (see Table 3).

4.3 The role of rice prices in pro-poor growth

Rice is the most important commodity in Indonesia, especially for the poorest members of society. It is not surprising that, in the short run (holding household income constant), the price of rice is the single most important determinant of poverty at the household level. The typical Indonesian household still gets nearly half of its food energy from rice, and expends about 10% of its income procuring it. Poor households allocate 20-25% of their total expenditures to rice.

In the long run, rice prices also exert significant influence on the pace of *poverty alleviation* by conditioning the rate of economic growth. This growth is the main cause of the structural transformation—the gradual decline of agriculture as a relative share of the economy and the relative growth of industry and modern services. Sectoral contributions to economic growth and structural transformation, e.g. the role of agriculture, must be understood in the context of this long-run process of economic restructuring (Timmer, 2009a).

In the short run, the effect of rice prices on the poverty of individual households hinges on the household's status as a net buyer or seller of rice. High prices clearly benefit net sellers of rice, and the larger are net sales the larger are the benefits. Low prices benefit net buyers of rice, especially those who do not produce any rice at all. This is the classic food price policy dilemma, and it is never easily resolved.[10]

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[8] The two commercial sectors—manufacturing and modern agriculture—are the "engines of growth" because of their potential for rapid productivity gains. Connecting them to the "non-tradable" sector, however, is the key to a high "elasticity of connection" between overall economic growth and rapid poverty reduction. Unless demand from rising incomes in the commercial sectors spills over to this non-tradables sector, the poor tend to be left out of the growth process. See Table 3 for data on the "economic growth elasticity of poverty" over time. About 80% of the variance in this elasticity is explained by changes in real rice prices: a simple regression using the data for GEP in Table 3, plus changes in real rice prices, has a coefficient of 0.2 on the price term, with a *t*-statistic of 5.9.

[9] There is little scope for productivity gains in the non-tradables sector. To raise incomes there, higher wages are needed in the tradeable sectors, along with flexible labour markets. National income accounts, however, are not kept according to this distinction—hence the data are more impressionistic.

[10] This dilemma provided the integrating analytical theme for *Food Policy Analysis*, by Timmer, Falcon and Pearson (1983).

Urban dwellers are net buyers of rice. This group includes the wealthiest members of society, but wealthy households are only a small fraction of urban households. In addition to the urban middle class, there are large numbers of urban poor. Rice accounts for a substantial portion of total expenditures of these poor households. In normal times (non-crisis), rice constitutes 20% of total expenditures for the poorest quarter of urban households. For the poorest 5%, this share rises to 25% (and it was even higher at the peak of the Asian Financial Crisis).[11]

Although the relative importance of the urban poor is growing, the majority of the poor reside in rural areas and will for a long time to come. In rural areas, the most important productive asset is land, and land ownership is a key determinant of both wealth and whether the household is a net buyer or seller of rice. *On Java, 45% of all rural households do not own any land,* other than perhaps a house plot. While not all of these households are poor, the great majority of them are in the lower rungs of the income distribution.[12]

Another 20% own less than one-quarter hectare of land, which is just enough to provide the average per capita consumption of rice for a family of five (if all the land is planted to rice and not to other crops). *Together, these two groups account for nearly two-thirds of rural households on Java*. By and large, they are much poorer than farmers with larger amounts of land, and they are not likely to be net sellers of rice. *For these households, lower rice prices mean higher real incomes and less poverty*.

Indonesia's larger landowning rice farmers are not wealthy in absolute terms, but in relative terms most of these households fall in the middle (third) quintile of the overall income distribution. On Java, only one-third of *rural* households own enough land to produce a surplus of rice for a family of five. These are clearly not the poorest of the poor, although poor farmers can rent rice land and be just as dependent on the harvest price as larger land-owning farmers. Permanently higher rice prices, however, just drive up the rental price of land, leaving renters no better off than before.

On average, land-owning, rice-surplus farmers generate only about half of their family income from growing rice. A decline in rice-based income does not lead to a proportional decline in household welfare even for these households. In summary, when urban households are included, only about 20-25% of Indonesia's households are better off from higher rice prices, and *very* few of these are among Indonesia's truly poor (McCulloch, 2008).[13]

Perhaps the clearest evidence linking rice prices and the poor relates to the distributional impact of economic growth. Table 3 shows the "economic growth elasticity of poverty (GEP)," i.e. the percentage decline in the headcount index of poverty relative to the percentage change in overall incomes per capita, for various episodes (for which SUSENAS data are available) from 1967 to 2011. This elasticity is negative for all 12 periods—economic growth leads to reductions in poverty—but it

[11] The 2002 SUSENAS shows that perhaps 10% of urban households are net producers of foods (not restricted to rice). The data do not indicate whether these are urban-based landlords, or short-distance commuting farmers.

[12] These data were provided by Jack Molyneaux as part of the Food Policy Support Activity.

[13] There is also clear evidence that high rice prices during the financial crisis in 1998 caused serious micro-nutrient deficiencies among small children in Central Java. See Block, et al., 2004.

varies widely in magnitude, from -0.27 to -2.69. This variance is caused to a substantial extent by changes in real rice prices. When rice prices are rising, economic growth has less impact on the poor than otherwise, and when rice prices are falling, the poor benefit.

The crisis and recovery showed that the price of rice is the most important determinant of poverty at the household level in Indonesia. Macro price stability matters to the poor (Timmer, 2004). Rice prices are important for poverty alleviation, not only in terms of their short-term direct benefits on the poorest quintiles but also because they play a key role in the structural transformation of the agricultural sector and the economy as a whole. In agriculture, low rice prices encourage farmers to diversify crops by making it cheaper to buy rice in the market while reducing the incentives to plant rice when the market price is low. The result is a move towards crops that give the poor higher profit margins. In Indonesia, artificially high rice prices have slowed down the crop diversification process, as well as investments in non-farm rural activities (Timmer, 2004).

During the severe economic contraction, the government developed and extended a number of formal safety net programmes. The Jaringan Pengaman Sosial (JPS) Social Safety Net Programmes, known until then for their patchy record, were extended to help protect the chronically and transitory poor from the impacts of the crisis. Initially, these cash programmes were directed to urban areas throughout the country, but were also intended to reach rural areas where harvest failures were causing significant hardship. The JPS programmes had four goals:

1. To ensure the poor could obtain food at affordable prices;
2. To create employment;
3. To preserve access to social services such as health and education; and
4. To sustain local economic activity through regional block grants and small-scale credit programmes (Sumarto et al, 2001).

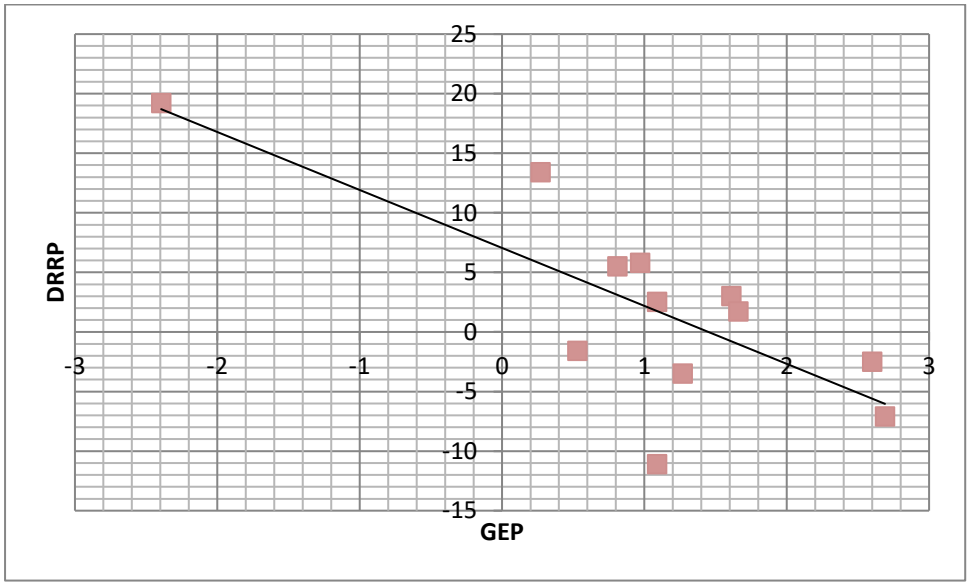
Evidence highlights the mixed effectiveness of the various programmes (SMERU, 2004). While the scholarships programme had a positive impact by keeping children in school, and the health-card programme showed improved access to public health facilities for the poor, the RASKIN (subsidised rice for the poor) programme saw higher levels of capture by upper quintiles. The next section analyses the performance of the RASKIN programme, which relied on BULOG's stocks to deliver rice to the poor.

Table 3: Factors Affecting Changes in the Headcount Index of Poverty

	Annual % change in per capita income	Annual % change in poverty index	Growth Elasticity of Poverty	Annual % change in real rice prices
1967-76	5.48	-6.00	-1.09	2.5
1976-80	6.37	-8.10	-1.27	-3.5
1980-84	4.23	-6.80	-1.61	3.0
1984-87	2.69	-7.00	-2.60	-2.5
1987-90	5.66	-4.60	-0.81	5.5
1990-93	6.06	-3.30	-0.53	-1.6
1993-96	6.28	-6.11	-0.97	5.8
1996-99	-4.16	9.96	-2.39 (+)	19.2
1999-2002	2.99	-8.04	-2.69	-7.1
2002-05	3.87	-4.21	-1.09	-11.1
2005-08	4.79	-1.27	-0.27	13.4
2008-11	4.25	-7.07	-1.66	1.7

Note: The Growth Elasticity of Poverty (GEP) is calculated as the ratio of the percentage reduction in the headcount poverty index (DPI) relative to the percentage change in per capita incomes (in $PPP) (DPCY) from the World Bank Data Base on Pro-Poor Growth. The figure below reverses the sign of GEP to make the relationship clearer.

Figure 3: Relationship between changes in the real price of rice (DRRP) and the growth elasticity of poverty (GEP)



Source: Timmer (2005, updated).

5. Managing RASKIN: Poverty and Politics

A careful documentation and full analysis of BULOG's management of its OPK/RASKIN mandate is well beyond the scope of this short paper. There are two dimensions to the task: understanding the actual impact of the rice distributions on the welfare of poor households; and determining the efficiency of BULOG operations in procuring, storing and distributing the rice to these households. Fortunately, both dimensions have received considerable attention since 1999. A quick summary of these high-quality studies is all that is attempted here.

Four studies in particular serve as effective summaries of current understanding of RASKIN's impact on poverty alleviation during and after the Asian Financial Crisis in 1998. The first, carried out in the immediate aftermath of the crisis by the architects of the OPK, was published in 2001 (Tabor and Sawit, 2001), although the quantitative evidence used in the evaluation only went through the end of 1999. This early evaluation is by far the most positive report on the costs and benefits of what ultimately became known as the RASKIN programme.

In 2006, the World Bank carried out a substantial poverty assessment, in which the RASKIN programme was evaluated as one of several Indonesian social safety nets designed to help poor households. The main focus of this major research project was to understand the main pathways out of poverty for Indonesia's poor rural households, but it also focused on "making growth work for the poor." The report was heavily influenced by the on-going project at World Bank headquarters on pro-poor growth (in which Indonesia served as the poster child—Timmer, 2005, 2007a, 2007b).

By 2012, a follow-up report on RASKIN by the World Bank had become increasingly hostile to the poor targeting, high costs, and lack of accountability of the programme. This report relied heavily on existing studies, especially from SMERU and local universities, to document the lack of impact of RASKIN deliveries of rice to the poor. The availability of panel data from SUSENAS was especially damning, as little of the RASKIN rice could be seen in household consumption data.

Following the 2012 World Bank report, BAPPENAS, the National Planning Agency, requested the World Bank assistance for a "Business Process Review" of RASKIN, with the official intent to identify inefficiencies in the logistical operations of BULOG in its RASKIN procurement and distribution system. The study was carried out by Deloitte/Monitor on behalf of a steering committee that included all bureaucratically interested official RASKIN parties, chaired by BAPPENAS.[14]

These four evaluations are summarised in the following four sections. All four of these reports relied heavily on the available ongoing research into the cost-effectiveness of the RASKIN programme. SMERU has long been the gold standard of this research, and its work is cited heavily. However, other Indonesian researchers also contributed significantly to our understanding of how well RASKIN works in reaching poor households in a cost-effective manner.

5.1 Tabor and Sawit Evaluation of OPK in 2001

The Tabor and Sawit evaluation of OPK was conducted at the request of BULOG, which cooperated fully with the two senior consultants who helped design OPK in the aftermath of the Asian Financial Crisis and loss of control over domestic rice prices. The very positive tone of the evaluation stems from two factors: (1) the OPK programme was compared with a general rice price subsidy that the government attempted in the immediate months after the crisis broke in late 1997—the targeted subsidy was considerably more cost-effective; and (2) both authors had been actively engaged in helping BULOG "troubleshoot" the teething problems in OPK's early implementation, and there was a palpable sense of relief that the programme was clearly working pretty well.

[14] The author served as technical advisor to the Deloitte/Monitor team upon the recommendation of BAPPENAS.

The introduction to the report stated:

> "The government's initial reaction to the deteriorating food security situation in 1997 and 1998 was to impose sweeping controls on food trade and marketing and to use public grain stock releases to hold down food prices. From mid-1997 to mid-1998, trade and price controls were used to maintain domestic food prices at 50 to 60 per cent of prevailing import parity prices. Food price subsidies for fiscal year 1998/1999 were initially budgeted at Rp 4 trillion but eventually reached Rp 12 trillion, the equivalent of 12.4 per cent of government development outlays and just under 2 per cent of GDP.
>
> Faced with a widening gap between domestic and international food prices, large quantities of rice and other basic foodstuffs were smuggled out of the country. Rather than sell rice at distress prices, farmers withheld rice from the markets and urban traders ran down their stocks. As supplies became more scarce, domestic rice prices rose by nearly 50 per cent from May to August of 1998, triggering a near-panic in several urban markets.
>
> By August 1998 the government abandoned its general food price subsidy policy. A targeted rice subsidy program (Operasi Pasar Khusus [special market operation], or OPK program) was mounted to protect the food security of low-income households. Under OPK, eligible households are allowed to buy ten (later twenty) kilograms of rice per family per month at a subsidized price of Rp 1,000 per kilogram from the government.
>
> The introduction of OPK was just one of many changes that were to sweep Indonesia's food markets in 1998 and 1999. In September 1998 the government announced that BULOG (the National Food Logistics Agency) would confine its domestic procurement activities to rice and would dispose of its non-rice food stocks. In September the government also announced that trade in foodstuffs would be liberalized, including rice. This was implemented in November 1998, ending BULOG's long-standing rice import monopoly. In January 2000 rice imports were fully liberalized, and a 30 per cent specific import duty was applied to imported rice. This dismantling of BULOG's broad-based food trade monopoly and price stabilization authority implies that, by default, the OPK targeted rice subsidy program has become the government's single most important policy instrument for protecting food security. Taken together with the liberalization of food markets, the attempt to target rice subsidies to the poor represents an important innovation in the government's food security tool kit."

It is not possible to review the full details of the Tabor and Sawit evaluation, as it is full of data and careful analysis of all features of the programme. They note the attention the programme has received by other evaluators:

> "The OPK program has been extensively monitored and evaluated, both by the program implementers and by independent NGO and university evaluators. The independent monitoring and evaluation reports reveal a number of common implementation problems, the most important of which are: (i) that the BKKBN welfare criteria were not designed specifically to identify food insecure households and that villagers often define food insecurity differently from the way in which program managers would define it (SMERU 1998; Sumarto et al. 2000; Wiebe 1998); (ii) there is a tendency in some beneficiary villages to redistribute the rice more widely amongst both poor and near-poor families, hence diluting the impact on the very poor (Rachman et al. 1999; Sumarto et al. 2000); (iii) that operational costs have been insufficient to meet the high transport costs to some Outer Island regions (State Ministry for Food and Horticulture Affairs 1999c); (iv) that some food insecure families are not eligible to participate in the program (Tim-JPS 1999); (v) that the program was not well socialized by the government and

understood by the poor population (Tim-JPS 1999); and (vi) that urban coverage was very low (Pusat Pengembangan Agribisnis 1998)."

Despite these difficulties, the authors conclude on a very optimistic note:

> "A targeted food subsidy program should become the cornerstone of any effort aimed at providing social protection for Indonesia's food insecure households. Although the OPK program was launched in the wake of the El Niño drought and during the first year of the monetary crisis, it should not be considered as an anti-crisis program per se. Rather, it should be seen as the main "food security" pillar of an evolving social protection system that is constantly improved to help ensure that the poor can afford to meet minimal nutrition norms.
>
> The OPK program should certainly not be the "only" pillar of a national food security system. Broad-based rural development, food supplementation for underweight children, nutrition education, vitamin and micro-nutrient supplementation, enhanced village storage, and healthy diet diversification efforts are also important components of a national food security effort.
>
> The OPK program demonstrates that the government of Indonesia can deliver targeted food subsidies in a reasonably cost-effective fashion. That the program has been mounted as quickly as it has and is quite cost-effective reflects positively on the government's logistics capabilities. That OPK generates significant economic and nutritional benefits (relative to program costs) implies that a public investment in targeted food security has considerable economic merit.
>
> In theory, income transfers can be provided in cash instead of in kind, and indeed some of the social safety net programs are operated on a cash transfer basis. The main advantage of using rice-based subsidies rather than some form of cash grant or food stamp schemes is: (i) rice is widely consumed by the poor, and whether there was or was not a subsidy program, food insecure households would spend a large part of their income buying rice; (ii) a rice-based income transfer leaves both a commodity-based and financial accounting trail that can be readily monitored and evaluated; (iii) eligible beneficiaries will demand provision of the commodity for which they must make a co-payment; and (iv) the OPK program's operational costs are relatively modest compared to the overall fiscal transfer. These costs would probably be in the same range as those of a food stamp type scheme, but with considerably less risk of fraud and corruption."

Subsequent implementation of the OPK programme, and its slight reorganisation as RASKIN (Rice for the Poor) in 2002, did not bear out this optimistic evaluation. Three factors intervened:

1. Despite the dismissal by Tabor and Sawit of Indonesia's rice stabilisation programme because it failed in 1997 and 1998 (note that stable rice prices are not part of a broader food policy in their conclusions), a return to more normal rice prices after 2000 also brought a return of government efforts to stabilise rice prices – efforts which sometimes conflicted with the logistical needs for RASKIN rice.

2. BULOG was converted from a State-Owned Enterprise with reporting responsibilities to the Cabinet to a "Perum," a private company that could be asked to take on public tasks for a negotiated fee. RASKIN became BULOG's primary public task, but its private status permitted it to become much less transparent in its financial and logistical operations.

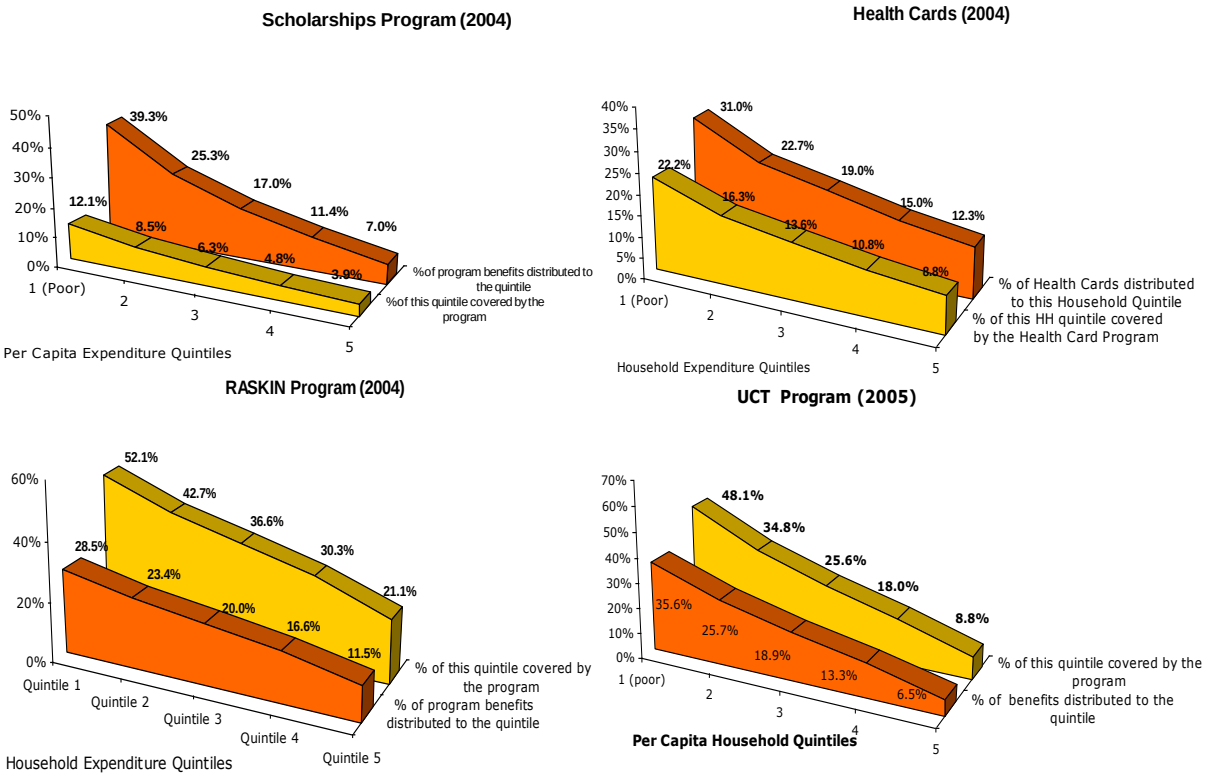
3. The “big-bang” decentralisation of political power radically changed the ability of centrally-funded and directed organisations to carry out activities at the local level. At a minimum, these activities, such as rice distributions at the community level, became much more complicated to administer. Often, local administrators were simply interested in other priorities than getting cheap rice to their constituents.

As we shall see, all three factors played increasing roles in the cost-effectiveness of BULOG’s implementation of the RASKIN programme.

5.2 World Bank Evaluation of RASKIN in 2006

Attention turned quickly to how well-targeted the safety net programmes were in an environment of budgetary tightness. As part of a general effort by the World Bank to help Indonesian policymakers understand how to “make the new Indonesia work for the poor,” an extensive poverty assessment was undertaken in 2005 and 2006, which paid special attention to the various social safety net programmes introduced after 1998. Figure 4, taken from the draft poverty assessment, shows that targeting had been quite poor, including for RASKIN.

Figure 4: Targeting performance of various targeted poverty programmes in Indonesia



Source: Susenas 2004, reflecting the distribution in 2003 for RASKIN, Scholarships and Health Cards. For UCT Targeting, Susenas 2005 panel data is used for preliminary findings.

Historically, programme targeting in Indonesia has not been particularly strong. As discussed above, evidence from various targeted programmes (Figure 4) shows that targeting performance was low. The under-coverage error—the proportion of the first quintile of households that are not included in the programme—is generally over 50%. Similarly, the leakage error—the proportion of beneficiaries

who are classified as non-poor or above the bottom quintile—is around 50-70%. Several elements of safety net programme design explain the reasons for less-than-efficient targeting of the poor, and some critical reforms should be considered.

1. Identifying clear lines of accountability within BULOG is a key first step in stemming losses. It is crucial to clarify responsibilities and penalties associated with corruption in programme implementation. Creation of an investigative team at the highest level could send a message that corruption will be seriously punished by BULOG's senior management.

2. Improving transparency regarding rice allocations and benefit amounts would increase community participation in the distribution process and reduce leakages at the village level. In addition, formalising the rules regarding the operational costs for distributing the rice would give certainty to the RASKIN selling price, avoiding misuse and mark-ups.

3. Independent monitoring should be encouraged. In this context, the government could undertake a study to identify the districts in which most leakages occur and try to pinpoint the biggest holes in the system. Understanding the incentives of officials involved in the programme would also be useful in tackling the underlying causes.

4. The private sector should be involved in the distribution process. Most villages in Indonesia are well served by private rice traders. It therefore makes little sense for BULOG to play the same role as the private sector. If distribution costs were benchmarked by locality, then the private sector could compete for this business through a transparent bidding process. Thus, BULOG could devote its resources to managing and monitoring the performance of private operators rather than implementing the programme itself. Only in remote areas where no private operators were willing to undertake distribution for a reasonable cost should BULOG continue to deliver rice directly.

5.3 World Bank Evaluation of RASKIN in 2012

A special study of RASKIN was conducted in 2012 in response to rising criticism of the RASKIN programme in the media and among local policy analysts. The Executive Summary stressed three critical reforms needed if RASKIN was going to continue as the country's main targeted poverty programme:

> **"(1) RASKIN will not effectively deliver either income support to the poor or stable rice prices without a major overhaul.** RASKIN does not effectively accomplish either of these goals for poor households because of overlapping weaknesses in design, operation, and oversight. In order to be an effective expenditure of public revenues that contributes to Indonesia's social safety net, RASKIN needs *at a minimum* to accomplish reforms in:
> (a) targeting, allocation, and local-level distribution so that vulnerable households benefit from low-cost access to a significant benefit;
> (b) oversight and monitoring of RASKIN policies and outcomes below the regional distribution points; and
> (c) socialization and dissemination of program goals, outcomes, financial performance, and delivery schedules.

(2) Two strategies – delivering RASKIN to food-insecure areas and developing a RASKIN "trigger and response" mechanism for food price crises – could pay immediate dividends for poverty reduction in Indonesia.

RASKIN allocations are currently uncorrelated with levels of food insecurity. Increased RASKIN allocations are often suggested as a solution when Indonesian food price indices spike, but such increases are often negotiated as budget add-ons and valuable time is spent in satisfying various parliamentary procedures. If RASKIN were instead automatically disbursed in either scenario – in regions with increased risk of food insecurity, or when food price crises hit – poor and vulnerable households could take advantage of the insurance provided by such a scheme. Instead of depending on usual coping strategies – reducing expenditures, putting more members to work – they will instead be confident that enough food will be available at low cost *when a shock occurs*.

(3) Without a comprehensive overhaul, RASKIN should consider focusing on price stabilization only.

The current RASKIN does not deliver a substantial benefit to poor and vulnerable households and has not attempted to substantially improve its service for those households. RASKIN may instead be more effective as a market-targeted, supply-side intervention that keeps local markets for rice 'thick', with as many buyers and sellers as possible. If RASKIN were reliably delivering rice to existing markets, the current lack of local-level oversight of outcomes could be tolerated and all households with market access would still derive benefits from low and stable prices and a functioning market in rice."

Although not widely distributed, this report was quite influential in reform-minded segments of the government, and led fairly quickly to an action programme to make RASKIN more effective, or even to convert it into a cash transfer programme.

5.4 Deloitte/Monitor "Business Process Review" of RASKIN

The Deloitte/Monitor "Business Process Review" of RASKIN was initiated by BAPPENAS with technical assistance from the World Bank. Although the final report was submitted in early 2015, its reception has been muted by the change in government and the rice crisis that emerged from mishandling the impact of the El Niño drought. The draft Executive Summary below provides clear guidance on what the team thought needed to be done to make RASKIN a cost-effective programme.

"The Subsidi Beras bagi masyarakat berpendapatan rendah (RASKIN, with a new name adopted in 2012: subsidized rice for low-income communities) program provides rice to poor and near-poor Indonesians. BULOG purchases and delivers rice to distribution points throughout the archipelago, while local governments manage rice from distribution point to beneficiaries. As the largest social assistance program targeted to poor households, RASKIN is a key component of the Indonesian government's support for food security.

The Tim Koordinasi (Tikor) RASKIN Pusat identified potential challenges with the efficiency and effectiveness of RASKIN service delivery, including low quality of delivered rice, distribution delays, leakage of rice, inadequate coordination and monitoring, and perceived poor program cost/benefit ratio.

To address these challenges, the Tikor RASKIN Pusat, assisted by the World Bank, commissioned Deloitte to perform a Business Process Review and Reengineering (BPR) to identify opportunities to improve the program.

In Phases 1 & 2 of the program Business Process Review and Reengineering, the Deloitte team analyzed the current state of the supply chain processes in detail and identified significant opportunities for improvement. (Please refer to the As-Is Report and the Inception Report for additional details)

As identified with input from an expert group meeting (EGM), the Republic of Indonesia should begin utilizing near-cash transfers [also known as the electronic benefits transfer or EBT] in areas of high retail infrastructure (mostly urban areas) and embark on a concerted effort to improve the continued delivery of rice in areas of limited retail infrastructure (mostly rural areas). In the future, as retail infrastructure expands throughout the archipelago, so should the use of EBT.

Numerous anticipated benefits will address many of the opportunities identified in the As-Is report. Benefits include:

- Improved program performance (as measured by the 6 program *Tepats*, and select supply chain metrics)
- Improved monitoring and management
- Reduced cost (especially in urban areas), and operating risks

The implementation will require a concerted effort and due to the complexity and/or size of investment will require support from the Tikor and other key stakeholders. In total, 9 interrelated initiatives have been identified to improve processes throughout the entire supply chain. It is estimated that the entire project will take up to 5 years to fully implement, however, multiple initiatives will complete along the way providing value in a shorter time-span. The total implementation cost has been estimated at a high level to range from 600 billion to 1.2 trillion IDR for all initiatives."

6. Concluding Observations

If the policy discussion is restricted solely to the future of RASKIN, a sensible analyst is likely to agree with a widespread sentiment in Jakarta's policy community—"kill it off." But if the discussion is about the broader role of food security in the development process, a much more nuanced and historically-informed view is needed.

Indonesia needs a new food policy. As important as improving RASKIN will be in this policy, as will a much clearer focus on the mechanisms for stabilising rice prices, the country also needs:

1. A serious reorientation of its agricultural production strategy to fit more closely with new demand patterns, to be much more sustainable, and to be much more flexible in the face of climate change;

2. New attention to emerging supply chains that can connect smallholder farmers growing high-value crops and livestock products to a rapidly emerging, and demanding, urban middle class; and

3. A complete re-think of the role of agricultural and food trade—both imports and exports—if the country is going to manage its transition from middle-income country to high-income country in the coming generations.

These are complex and politically charged issues, but careful food policy analysis can provide the framework and roadmap for moving forward. Indonesia deserves no less.

References

Afiff, Saleh and C. Peter Timmer. 1971. “Rice Policy in Indonesia.” *Food Research Institute Studies in Agricultural Economics, Trade, and Development*, vol. 10, no. 2, pp. 131-159.

Boeke, Jan H. 1946. *The Evolution of the Netherlands Indies Economy.* Institute of Pacific Relations. New York.

Falcon Team Report. 1985. *Rice Policy in Indonesia, 1985-1990: The Problems of Success*. (Confidential Report submitted to the Chairman of BULOG, September 2). The team was composed of Walter P. Falcon, M. Margaret Hastings, Leon A. Mears, Scott R. Pearson and C. Peter Timmer.

Hill, Hal. 1996. *The Indonesian Economy since 1966: Southeast Asia's Emerging Giant*. Cambridge University Press.

Hofman, Bert, Ella Rodrick-Jones, and Thee Kian Wie. 2004. “Indonesia: Rapid Growth; Weak Institutions.” Paper prepared for the Shanghai Conference on “Scaling Up Poverty Reduction,” May 28-29, 2004. Preliminary Draft (April 18). Jakarta: The World Bank, processed.

Kaplan, Steven Laurence. 1984. *Provisioning Paris: Merchants and Millers in the Grain and Flour Trade during the Eighteenth Century.* Ithaca: Cornell University Press.

Lewis, W. Arthur. 1954. “Economic Development with Unlimited Supplies of Labor,” *Manchester School of Economics and Social Studies*, Vol. 22, pp. 139-191.

McIntyre, Andrew. 2003. “Indonesia as a Poorly Performing State?” Australian National University. Processed.

Myrdal, Gunnar. 1968. *Asian Drama: An Inquiry into the Poverty of Nations*. Pantheon Books: New York.

Pearson, Scott R. 1993. “Financing Rice Price Stabilization,” *Indonesian Food Journal,* Vol. IV, No. 7, pp 83-96.

Ravallion, Martin and Lokshin, Michael, "Who Cares About Relative Deprivation?" (December 2005). World Bank Policy Research Working Paper No. 3782 Available at SSRN: http://ssrn.com/abstract=873669

(SMERU) Sumarto Sudarno, Asep Suryahadi and Wenefrida Widyanti. 2004. “Assessing the Impact of Indonesian Social Safety Net Programs on Household Welfare and Poverty Dynamics” SMERU Working Paper.

Sudarno Sumarto, Asep Suryahadi, Lant Pritchett (2001). “Safety Nets and Safety Ropes: Comparing the Dynamic Benefit Incidence of Subsidized Rice and Public Works Programs in Indonesia” Paper for presentation at the Vulnerability and Poverty Workshop, Third Asian Development Forum, Bangkok, June 12-14.

Tabor, Steven R. and M. Husein Sawit. 2001. “Social Protection via Rice: The OPK Rice Subsidy Program in Indonesia.” *The Developing Economies,* XXXIX-3 (September), pp. 267-94.

Temple, Jonathan. 2001. “Growing into Trouble: Indonesia after 1966.” Working Paper, Department of Economics, University of Bristol. August 15, processed

Thorbecke, Erik. 1995. The Political Economy of Development: Indonesia and the Philippines. The Frank H. Golay Memorial Lecture. Cornell Southeast Asia Program. Ithaca, NY.

Timmer , C. Peter. 1975. “The Political Economy of Rice in Asia: Indonesia,” *Food Research Institute Studies*, 14 (3): 197-231.

_____. 1986. *Getting Prices Right: The Scope and Limits of Agricultural Price Policy*. Ithaca: Cornell University Press.

_____. 1995. "Food Security and Rice Price Stabilization: An Essay in Honor of Bustanil Arifin." In Ministry of Cooperatives and Small-Scale Enterprises (Indonesia), *Beras, Koperasi dan Politik Orde Baru* [*Rice, Cooperatives and New Order Politics*]. Jakarta (October), pp. 326-51.

_____. 1996. "Does BULOG Stabilize Rice Prices in Indonesia? Should It Try?" *Bulletin of Indonesian Economic Studies* (Canberra), vol. 32, no. 2 (August), pp. 45-74.

_____. 1997. "Building Efficiency in Agricultural Marketing: The Long-Run Role of BULOG in the Indonesian Food Economy," *Journal of International Development*, vol. 9, no. 1, pp. 133-45.

_____. 2002. “Agriculture and Economic Growth.” In Bruce Gardner and Gordon Rausser, eds., *The Handbook of Agricultural Economics*, Vol. II. Amsterdam: North-Holland, pp. 1487-1546.

_____.2003. “Food Security and Rice Price Policy in Indonesia: The Economics and Politics of the Food Price Dilemma.” In Mew, T. W., Brar, D. S., Peng, S., Dawe, D., and Hardy, B. eds. *Rice Science: Innovations and Impact for Livelihood. Proceedings of the International Rice Research Conference*, 16-19 September, 2002, Beijing, China. International Rice Research Institute, Chinese Academy of Engineering, and Chinese Academy of Agricultural Sciences, pp. 777-788.

_____. 2004. “The Road to Pro-Poor Growth: The Indonesian Experience in Regional Perspective.” *Bulletin of Indonesian Economic Studies*. vol. 40, no. 2, (August), pp. 177-207.

_____. 2005. Operationalizing Pro-Poor Growth. Indonesia. Country Study for the World Bank. Draft June.

_____. 2007a. “How Indonesia Connected the Poor to Rapid Economic Growth,” in Tim Besley and Louise Cord, eds., *Delivering on the Promise of Pro-Poor Growth: Insights and Lessons from Country Experiences*. London: Palgrave MacMillan and the World Bank (2007), pp 29-58.

_____. 2007b. “A Historical Perspective on Pro-Poor Growth in Indonesia,” in Michael Grimm, Stephan Klasen and Andy McKay, eds., *Determinants of Pro-Poor Growth: Analytical Issues and Findings from Case Studies*. London: Palgrave MacMillan (2007), pp, 164-190.

_____. 2010. Reflections on Food Crises Past.” *Food Policy*. Vol. 35, no. 1, (Jan), pp. 1-11.

_____. 2014. “What are grain reserves worth? A generalized political economy framework.” Chapter 13 in Prema-chandra Athukorala, Arianto A. Patunru and Budy P. Resosudarno, eds. *Trade, Development, and Political Economy in East Asia: Essays in Honour of Hal Hill*. Institute of Southeast Asian Studies (ISEAS), pp. 235-248.

Timmer, C. Peter, Walter P. Falcon and Scott R. Pearson. 1983. *Food Policy Analysis*. Baltimore: Johns Hopkins University Press for the World Bank.

Timmer, C. Peter, Walter P. Falcon, Andrew D. Mason, Franck Wiebe, and Jonathan Morduch. 1992. “Approaches to Poverty Alleviation in Indonesia,” (September), Harvard Institute for International Development (HIID) Report 136/92/255. Cambridge, MA.

Warr, Peter G. 1984. “Exchange Rate Protection in Indonesia.” *Bulletin of Indonesian Economic Studies*. Vol. XX, no. 2, August, pp. 53-89.

_____. 2011. “Food Security vs. Food Self-Sufficiency: The Indonesian Case. *The Indonesian Quarterly*, Vol. 39, no. 1, pp. 56-71.

Williams, J. C. and B. D. Wright, 1991, *Storage and Commodity Markets*. Cambridge University Press, Cambridge.

World Bank. 1993. *The East Asian Miracle: Economic Growth and Public Policy*. New York: Oxford University Press.

_____. 2004. “Concept Paper on Operationalizing Pro-Poor Growth,” Washington, DC.

_____. 2006. *Making the New Indonesia Work for the Poor: A Poverty Assessment.* November. Jakarta, Indonesia.