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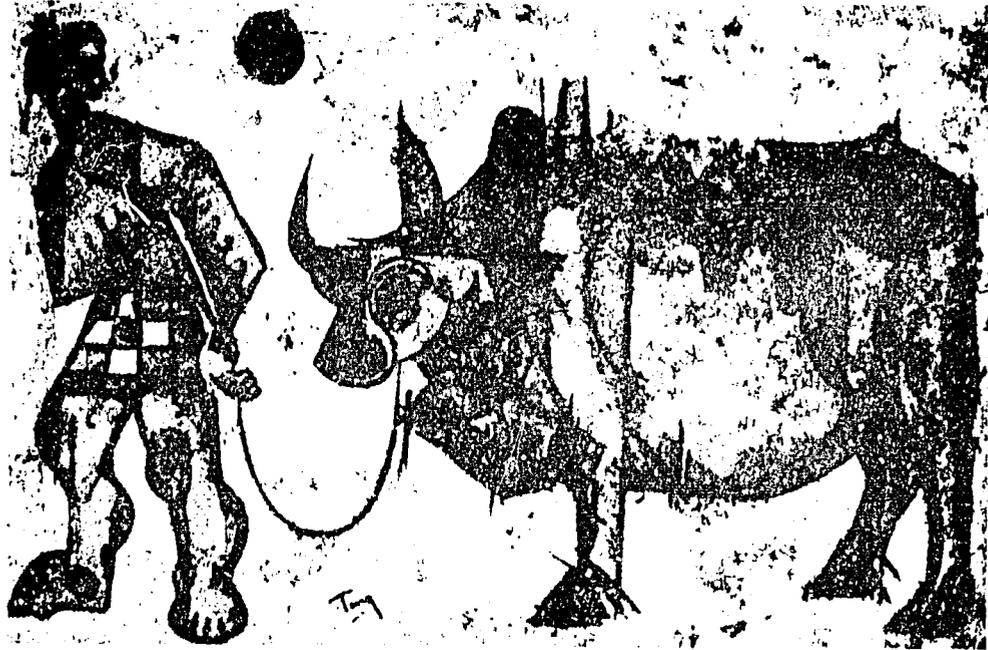
9. ABSTRACT

An examination of the dynamics of rural development in Indonesia essentially entails a study of three distinct perspectives. It involves an illumination of their constituent elements and an elaboration of the connecting links which tie these discrete elements into a larger and more integral pattern of social and institutional interaction. First, initial attention must be focused on the primary physical and resource endowments which the rural dweller must organize his existence, particularly those characteristics which relate to the larger problem of agricultural productivity. Second, cognizance must be given to those social and economic determinants which structure the character of interaction among rural dwellers, both as individuals and as members of more distinct social entities. Finally, attention must be given to the role of government and the extent to which it is either a reflection of the first two perspectives or an independent and autonomous agent of change, intentionally and systematically molding and shaping those sets of relationships which constitute the pre-existing physical, social and economic order.

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Special Series on Rural Local Government

**RURAL LOCAL GOVERNMENT AND
AGRICULTURAL DEVELOPMENT
IN JAVA, INDONESIA**

Gary E. Hansen

RURAL LOCAL GOVERNMENT AND AGRICULTURAL DEVELOPMENT
IN JAVA, INDONESIA

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FOREWORD

This monograph was written as part of a comparative study of Rural Local Government organized by the Rural Development Committee of Cornell University. The study aimed at clarifying the role of rural local institutions in the rural development process, with special reference to agricultural productivity, income, local participation and rural welfare. An interdisciplinary working group set up under the Rural Development Committee established a comparative framework for research and analysis of these relationships.¹ A series of monographs, based in most cases on original field research, has been written by members of the working group and by scholars at other institutions and has been published by the Rural Development Committee. An analysis and summary of the study's findings has been written for the working group by Norman Uphoff and Milton Esman and has been published separately.

This study of Rural Local Government is part of the overall program of teaching and research by members of the Rural Development Committee, which functions under the auspices of the Center for International Studies at Cornell and is chaired by Norman Uphoff. The main focuses of Committee concern are alternative strategies and institutions for promoting rural development, especially with respect to the situation of small farmers, rural laborers and their families. This particular study was financed in large part by a grant from the Asia Bureau of the U.S. Agency for International Development. The views expressed by participating scholars in this study are their own and do not necessarily reflect the views or policies of USAID or Cornell University.

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PREFACE

Portions of this monograph are based on field research conducted in Java in July and August 1973. Indonesians who assisted me in this field effort are too numerous to mention. I would like to express my appreciation to all of them and would single out in particular certain individuals who spent most generously of their time to help me broaden my understanding of the various issues and problems associated with agricultural development in Java. In this regard, recognition should be given to Dr. Sudjanadi of the faculty of the Bogor Institute of Agriculture. His knowledge about agricultural development in West Java, as well as his comprehension of policy-making from Djakarta was quite helpful in understanding the linkages between decision-making at the local and national level. Mention is also in order for Ir. Moedjijo on the Faculty of Agriculture, University of Gadjah Mada. Ir. Moedjijo was particularly helpful in my research in several kabupatens in central Java. I would also like to thank Mr. Tatang Subrata, staff member of the National Institute of Administration, West Java branch, for his assistance in undertaking the field research. Mr. Tatang and Mr. Purnaman Natakusumah, Director of the Institute were refreshingly perceptive in their comments on the role of local government in the development process. Finally, I want to express my appreciation to Dr. Sajogyo, faculty member at the Bogor Institute of Agriculture and former Director of the Agro-Economic Survey. His residence as a senior fellow at the East-West Center Food Institute in 1972-73 provided me with a rare opportunity to benefit from his long years of experience and study of agricultural conditions on Java.

I would like to thank the Rural Development Committee, Center for International Studies, Cornell University, for providing me the opportunity and financial support in undertaking the research for this monograph: I am much indebted to the staff of the East-West Center Technology and Development Institute for their encouragement in this endeavor. I also want to express my appreciation to Mrs. Harriet Iwamura for her assistance in typing the original drafts of this manuscript.

Finally, I would like to acknowledge SEADAG for having provided an opportunity to present an earlier draft of this paper at a seminar on "Rural Local Government and Development Administration in Southeast Asia," April 4-6, 1974, at Cornell University.

Gary E. Hansen

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RURAL LOCAL GOVERNMENT AND AGRICULTURAL DEVELOPMENT IN JAVA, INDONESIA

I. Introduction

An examination of the dynamics of rural development in Indonesia essentially entails a study of three distinct perspectives. It involves an illumination of their constituent elements and an elaboration of the connecting links which tie these discrete elements into a larger and more integral pattern of social and institutional interaction. First, initial attention must be focused on the primary physical and resource endowments around which the rural dweller must organize his existence, particularly those characteristics which relate to the larger problem of agricultural productivity. Second, cognizance must be given to those social and economic determinants which structure the character of interaction among rural dwellers, both as individuals and as members of more distinct social entities. Finally, attention must be given to the role of government and the extent to which it is either a reflection of the first two perspectives or an independent and autonomous agent of change, intentionally and systematically molding and shaping those sets of relationships which constitute the pre-existing physical, social and economic order.

An understanding of the pattern of rural development and change in Indonesia in great part rests upon an integration of these perspectives and in particular an appreciation of the interaction between government and society. Bendix and other scholars of institution building in the new nations essentially convey in their writings an image of societies wherein institutional boundaries are highly

vulnerable to the pressures and demands exerted by a newly mobilized populace, societies where private and particularistic concerns frequently gain ascendance over a more embryonic conception of the public interest, where ultimately the state is subsumed by society, and where government fails to achieve the needed degree of institutional insularity and autonomy requisite for effective collective action.¹

The problem of institution building is of particular relevance to Indonesia. In the 25 years following its independence, the structure of political and governmental action has been characterized by a complete swing of the pendulum from a condition of rapid erosion in the boundaries which distinguish government from society, to the submergence of public institutions within the body politic, to a situation where conversely, public institutions are beginning to take on a distinct character independent from their surrounding environment. More succinctly, in the period from 1950 to 1965, there occurred a gradual diminution of government authority as public institutions succumbed to the deeper and more pervasive political and ideological cleavages embedded within Indonesian society. In the post-1966 era, a more cohesive political elite emerges into a position of dominance and initiates a process to disengage the major organs of government from the complex network of social allegiances and political allegiances which grew up in the 1958-1965 period.

¹"For the decisive criterion of the Western nation-state is the substantial separation between the social structure and the exercise of judicial and administrative functions...One unquestioned corollary of this emergence of the nation-state is the development of a body of officials, whose recruitment and policy execution were separated gradually from the previously existing involvement of officials with kinship loyalties, hereditary privileges, and property interests." Reinhard Bendix, Nation-Building and Citizenship, New York: John Wiley, 1964, pp. 106-107.

The radical swing in the course of post-colonial political development in Indonesia has had a profound impact with respect to the government's capacity to respond to the needs of economic growth and in particular in its effort to effectuate basic changes in the rural sector. More explicitly, since achieving independence, the government has yet to engage the Indonesian peasantry in a sustained process of self-generating growth, helping new organizational structures to emerge in the rural sector to mobilize and direct peasant resources in more productive and diversified economic activity. A general explanation of this problem can be couched in terms of the above concepts, in that institutional and policy formulas have yet to be designed whereby the structures of government function in a manner which stands midway between the excessive politicalization of the recent past and the more insular and authoritarian conditions of the present.

This monograph will seek to illuminate these issues by first devoting attention to the basic characteristics of Indonesian agriculture. This discussion is followed by an overview of post-colonial social and political developments and of government attempts to cope with these changes, and finally by an assessment of the current and future prospects of government efforts to induce rural change. Particular attention will be focused upon Java, where one finds the most intractable and extreme conditions of rural poverty, and upon the Green Revolution, a campaign which has essentially been waged on Java, Indonesia's rice bowl. This effort constitutes one of the government's most significant undertakings in the area of rural government.

II. The Conditions of Peasant Agriculture on Java

The agricultural sector constitutes the primary source of income and employment for the mass of the Indonesian population. The dominance of the agricultural sector in great part reflects the burden of the colonial legacy, as Dutch economic policies were essentially concerned with the development of a plantation economy. The absence of a more diversified economic structure is also a product of the post-colonial era. For the past 25 years, a chronic condition of political and economic instability has served to retard seriously the emergence of an embryonic manufacturing sector. On Java, the agricultural sector is notable for the fact that it manifests the classical features of the so-called "dual economy." On the one hand there is a modern plantation economy, and on the other a well-entrenched and traditional small farm sector. The former is characterized by large tracts of land, large capital investment, and production for export, whereas the latter is distinguished by extremely small plots of rice sawah, a labor-absorptive technology, and cultivation for domestic consumption. To be sure, some peasants have crossed over into the commercial sector, particularly in the outer islands, but on Java, the dominant contrast still persists between the large, modern agricultural enterprise and the small, frequently subsistence-oriented peasant cultivator.

It is on Java, where the past and future of Indonesia come together, for this island by virtue of its complex social and political heritage, has dominated the course of Indonesian history, and in the same measure, the future of the archipelago will in great part rest upon how the people of this small island work out their own destiny. The significance of Java is merely suggested by the fact that while it constitutes but 6 percent of Indonesia's total

land mass, it nevertheless supports 70 percent of the entire population. A total of 80 million of Indonesia's 125 million inhabitants live on an island no larger than the state of New York. In some areas of Java, population density frequently exceeds 3,000 people per square mile. This condition is simply a reflection of inordinate and overwhelming population growth. In 1815 the total population of Java was 4.5 million; by 1860 it was 12.5 million; in 1900, 23.4 million; in 1961, 63.1 million; and finally, in 1973, 80 million.¹ Estimates of projected population growth indicate that by the year 2000, from 110 to 120 million people will inhabit Java.² These figures take on ominous implications when it is recognized that most available agricultural land on Java was under cultivation already at the turn of the century. With each passing year, the iron jaws of the Malthusian trap seem to cut more deeply into Java's overtaxed soil. The extent to which this historical process can be reversed and the peasant extricated from impending disaster will in great part be determined by his capacity to utilize more effectively the full potential of available agricultural resources. The record to date shows but mixed and marginal moves in this direction, even though the gravity of the situation would seem to dictate otherwise.

¹For a list of these figures, see Clifford Geertz, Agricultural Involution: The Processes of Ecological Change in Indonesia, Berkeley: University of California Press, 1963, p. 69. The source of the 1930 figure is The Statistical Pocketbook of Indonesia, 1963, Djakarta: Biro Pusat Statistik, 1963, p. 11. The 1965 figure is from The Statistical Pocketbook of Indonesia, 1964-1967, Djakarta: Biro Pusat Statistik, 1968, p. 17. The totals include the population of Madura. The 1973 figure is the author's own rough estimate.

²Nathan Keyfitz, "The Long-term Prospect for Indonesian Population," Bulletin of Indonesian Economic Studies, IX: 1, March 1973, pp. 107-109.

Peasant response to population pressure is most visibly manifested in the balance of factor proportions; traditional agriculture on Java is a singularly labor-intensive operation. The capacity and willingness to absorb a rapidly increasing population within the narrow confines of the island Java is a derivative feature both of Javanese culture in particular and of wet rice cultivation in general. Thus, in the words of Clifford Geertz, one of the more prolific scholars of Javanese society, "by continuing and re-emphasizing traditional values stressing the right to work, historically defined 'fair shares' for labor and a deep-seated reluctance to sell land to outsiders--values which must date from as far back as the slash-and-burn days--the peasant has made certain that no effective labor-saving innovations would get a foothold in his crowded social economy."¹ This cultural norm has come to be identified by the concept of "shared poverty," which in turn implies a behavioral mode whereby in situations... "of increasing labor supply and constant output workers

¹Clifford Geertz, The Development of the Javanese Economy: A Socio-cultural Approach, Cambridge: Center for International Studies, Massachusetts Institute of Technology, 1956, p. 35. Geertz further notes in a footnote that..."examples of the operation of such values include the obligation of a man with a relatively large amount of land not to work all of it himself, even if able to do so, not to work it entirely with wage labor: but to allow kin, political dependents or poorer neighbors a chance to share in its cultivation. Contrariwise, such a man is expected to permit others to use his labor on their fields, even though he has no personal economic reason to offer it. The 'fair shares' idea means that even the most moderate form of 'Taylorism' in the direction of agricultural labor is very difficult of accomplishment; even in the most highly monetized areas, for example, meals are still provided workers. The reluctance to alienate land to outsiders (it is forbidden by law to alienate it to foreigners) tends, of course, to prevent the development of large land-holdings." Ibid., p. 114.

will characteristically be willing to restrict their own effort to let a new one into the line..."¹ The option of shared poverty, however, becomes all the more viable given the technology of wet rice agriculture. As Geertz points out, yields from wet-rice sawah increase (even if not proportionately) in response to more labor-intensive cultivation.² Thus, increases in labor supply have simply been absorbed in the care and cultivation of the island's basic agricultural crop. Relative to other rice growing areas in Asia, Java has the highest labor input per unit of sawah cultivation.

Although shared poverty and more intensive techniques of cultivation have ceased to function as effective modes in the absorption of Java's burgeoning population, their persistence continues to exact a heavy toll of both the land and the farmer. Thus, while more intensive cultivation succeeded in increasing production per unit of rice sawah, these increases have not kept pace with the rate of labor absorption, and productivity per worker has either remained static or declined. As a consequence of this condition, increasing rice yields in this century have in no way arrested or reversed a growing process of rural deterioration. Surveys taken in 1957 indicate that 78 percent of Java's farm holders have less than 0.5 hectares, and the agricultural census of 1963 revealed that 20 percent of all rural households have on the average less than 0.1 hectares.³ Available data indicate that income

¹Ibid., p. 22.

²Geertz, Agricultural Involution, op. cit., pp. 28-37.

³Karl Pelzer, "The Agricultural Foundation," in Ruth McVey, ed., Indonesia, New Haven: Human Relations Area Files, p. 126; Sajogyo, Dilemmas in Modernization Without Development in Rural Java, p. 1.

from a farm-holding of less than half a hectare is insufficient for minimum household needs and yet this is where most of Java's farmers find themselves.

Individual village studies reveal an even more desperate condition than do the aggregate data. Thus, in a survey of several villages included in the Agro-Economic Survey in East Java, it was found that 40 percent of the households did not have any rice land.¹ These studies and others like them simply reflect an on-going process of rural impoverishment. The gradual decline in peasant welfare is reflected both in its cost to human livelihood and in the depletion of Java's already limited agricultural resources. Little systematic research has been conducted on nutritional levels in Java, but it is generally recognized that malnutrition has been on the rise since the turn of the century and that sizable proportions of the population suffer from major deficiencies in calorie and animal protein consumption.² Death by starvation is not an infrequent occurrence, and research in one poverty-stricken area indicated a gradual generational decline in body weight and size.³ While the problem of malnutrition is not all that obvious to the untrained eye, such is not the case in assessing the more general ecological impact of population growth in Java. Excessive cultivation of the island's limited land area has seriously reduced forest reserves. Pelzer, a noted authority of Indonesian agriculture, notes

¹Ibid., p. 5.

²B. Napitupulu, "Hunger in Indonesia," Bulletin of Indonesian Economic Studies, 9, February 1968, pp. 60-70. See also K.U. Bailey, "Rural Nutrition Studies in Indonesia," Tropical Geographical Medicine, No. 13, 1961, and No. 14, 1962.

³M. Timmer, Child Mortality and Population Pressure in the R.I. Yogyakarta, Java, Indonesia, "Browder Offset," Rotterdam.

that even before World War II, arable forest land had ceased to exist on Java. He further notes that forest reserves have dwindled from a minimum 30 to 22.7 percent of the island's land area.¹ Severe erosion and attendant flooding and silting have seriously impaired the network of canals which irrigate Java's rice fields. The quest for more land to sustain food crops has also exacted a heavy toll in numbers of livestock; the cattle, horse and buffalo population has dwindled in number on Java.²

Given the mounting pressures of population growth, unemployment, hunger, and malnutrition within rural Java, the question arises whether there are courses of action still available for increasing peasant productivity and income which could thereby contain the forces of further deterioration and perhaps even raise the level of general welfare for the majority of the rural populace. The evidence would seem to suggest that all is not lost, and that, indeed, there are ample opportunities for generating additional growth. D.H. Penny, a noted scholar of Indonesian agriculture, provides in his writings an abundance of examples where major increases in agricultural productivity could be attained with minor alterations in land, labor, and technological inputs.³ These increases could be achieved with either marginal or no additional expenditures of resources. Likewise, increases in productivity could be attained with substantial improvements in seed selection, fertilizer use, pesticide application

¹ Pelzer, op. cit., p. 121.

² D.H. Penny, "Indonesia," in R.T. Shand, Agricultural Development in Asia, Canberra: Australian National University Press, 1969, p. 255.

³ D.H. Penny, "Development Opportunities in Indonesian Agriculture," Bulletin of Indonesian Economic Studies, 8, October 1967, pp. 35-54.

and more effective management and maintenance of tertiary roads and irrigation canals. Numerous other examples could be enumerated where minor reallocations in production factors could yield handsome and profitable returns. Thus, Penny demonstrates that individual peasant farmers could sustain significant increases in real income by putting less emphasis upon rice cultivation and devoting greater attention to fruit and garden crops. Many of these opportunities are within reach of the individual farmer and his limited resources, whereas others would entail some kind of collective action and resource mobilization among groups of farmers.

In summary, the impoverished condition of peasant agriculture in Java cannot be ascribed essentially to a lack of investment opportunities. The fact is that many peasants are simply not responding to these alternatives, at least not on a scale sufficient to generate overall economic growth. In some cases, the absence of entrepreneurial responses can be attributed to a lack of knowledge. In general, however, more subtle social and economic forces constitute the determining factors. Thus, a number of contemporary scholars have written about agricultural conditions on Java, and the content of their analysis is such as to cast serious doubt upon the ability of the individual peasant to improve his condition without first accomplishing basic reforms in the structure of rural society. Most prominent among these scholars is Clifford Geertz, who has proposed the already-mentioned concept of shared poverty as an institutional adaptation. An exploding population base has been simply absorbed within the existing social structure by making rice cultivation a more labor-intensive activity. As one would expect, in examining the obverse side of this adaptive response, there are severe constraints and sanctions against the introduction of new agricultural methods which in their

technology are labor-displacing. Numerous occasions can be cited where peasants have failed to adopt a new technology on account of its possible impact in reducing employment opportunities within the village. These incidents simply convey the fact that shared poverty is a deep-seated cultural norm, or as Geertz emphasizes..."the adaptation of the Javanese peasantry to their environment must not be seen as a merely technical matter, but as a productive process organized in terms of cultural values. The evolving patterns of land and labor manipulation are not only modes of adaptation, but statements of the correct way in which production should be organized and its returns distributed."¹ While more recent evidence suggests that peasant agriculture in Java is more open to change than is implied in the Geertz analysis, his comments are still valuable in understanding the cultural factors which inhibit peasant innovation.

The insights of Geertz run in direct parallel to the observations of D.H. Penny. Penny seeks to explain the absence of entrepreneurial behavior in terms of the decision-making process of the individual peasant cultivator.² He suggests that peasant resistance to change is derivative of a "subsistence minded" mentality, wherein the peasant cultivator shuns innovation for fear of the possible economic losses entailed in modifying his traditional pattern of agricultural production. The values of security and certainty take precedence over the risks inherent in adopting new technologies to increase profits. In Penny's view, peasant conservatism represents a logical response to a long

¹Geertz, The Development of the Javanese Economy, op. cit., p. 34.

²D.H. Penny, "Indonesia," op. cit., pp. 261-267; and D.H. Penny, "The Economics of Peasant Agriculture: The Indonesian Case," Bulletin of Indonesian Economic Studies, 5, October 1966, pp. 22-44.

history of market instability, dating back to the colonial period and continuing on into the independence era. Peasants have seldom been in a position to assume that market prices would be sufficiently predictable to guarantee the promised rewards attendant upon the introduction of a more profitable agricultural technology. Nevertheless, while external factors, i.e., an unstable market, can be identified to explain the absence of a progressive peasant agriculture, like Geertz, Penny hints that subsistence mindedness has become a communal norm, the weight of which further dampens the entrepreneurial spirit. Commenting upon the general feature of peasant aversion to change, and their preference for labor-intensive cultivation of subsistence crops in opposition to introducing new technologies for the growing of commercial crops, Penny asserts that..."they have created a just society where no man is in want, where no man has an unfair advantage over any other, and where each man can and must act responsibly in the economic and other fields of social life."¹

The implications inherent in the views of Geertz and Penny are such as to suggest that given the cultural constraints embedded within peasant society, agricultural modernization will be a slow and difficult process to initiate in rural Java. Indeed, there is a strong undercurrent of pessimism in their writings concerning the prospects of peasant agriculture becoming a more dynamic and integral aspect of the Indonesian economy. It would seem that nothing short of miraculous action will be sufficient to reverse the race towards the Malthusian nightmare. Nevertheless, pessimism is not fully shared by all those who have studied Java's economic plight. Thus,

¹D.H. Penny, "The Economics of Peasant Agriculture: The Indonesian Case," op. cit., p. 33.

Sajogyo, former director of the Agro-Economic Survey, a survey initiated in 1965 to collect data systematically and evaluate rural conditions on Java, has mobilized sufficient evidence to dispell any notion that peasants are in fact oblivious to profit incentives.¹ In assessing the impact of the Green Revolution on Java, Sajogyo concludes that a great many peasants have indeed adopted the new rice varieties, and thereby, in significant measure, increased their incomes. Yet half of Java's peasant farmers have not adopted the HYV's. In examining the characteristics of the non-acceptors as contrasted to the acceptors, Sajogyo finds that farm size is the critical variable in explaining peasant responses; those farmers who own less than a half hectare plot are in general non-acceptors of the new varieties. Sajogyo attributes this less to a lack of interest and profit motivation than to the small peasants' inability to acquire investment capital. The income from a farm size of a half hectare or less is not sufficient to support household needs, let alone the additional capital requirements of the new technology. In Sajogyo's terms, these are the "marginal farmers" and in number they constitute 4.1 of Java's 7.9 million farmers.

Implicit in Sajogyo's analysis is the assumption that with the provision of additional capital, the marginal farmer would respond to opportunities for increasing farm productivity. Here his position parallels the views of Geertz and Penny; all of them concur that many peasants, whether inhibited by the sanctions of culture or by the scarcity of capital, are unable of their own accord to sever the ties to a subsistence agriculture. Significant change will only occur in response to an intrusion from the

¹Sajogyo, *Dilemmas in Modernization Without Development in Rural Java*, op. cit.

outside, as village resources are less than sufficient for engineering a transition from traditional to commercial agriculture. Inevitably, the focus of attention shifts to government, and the instrumentalities of public policy and organizational action are viewed as the agents for introducing changes within the rural sector. In short, in order to illuminate further the problems of inducing rural change, the analysis must shift from an exclusive preoccupation with culture and demography to an examination of the content of public policy and its impact in enhancing peasant welfare in Java.

III. Unfulfilled Plans and the Process of Institutional Change: 1950-1965

Upon achieving its independence, the government of Indonesia immediately set about preparing plans for increasing the domestic production of rice. This action occurred in response to the growing burden of rice imports upon Indonesia's dwindling supply of foreign exchange. Thus from 1950 to 1952 rice imports increased from 334,000 tons to 765,800 tons.¹ The effort to increase rice production was also made in recognition of the fact that success in this constituted a critical component of the government's attempt to maintain a stable and balanced pattern of economic growth. The first sustained program to increase rice production was initiated in 1952 with the announcement of the Kasimo Plan, a program inaugurated with the purpose of achieving self-sufficiency of rice production by 1956.² The basic thrust of this campaign essentially involved the increased distribution of fertilizer, the

¹ "Statistics," Bulletin of Indonesian Economic Studies, V: 2, July 1969, p. 88.

² Benjamin Higgins, Indonesia's Economic Stabilization and Development, New York: Institute of Pacific Affairs, 1957, pp. 55-56.

dissemination of improved seeds, and restoration of irrigation facilities. The results of the Plan appeared to have been considerable; between 1950 to 1954 rice production rose by a margin of 30 percent. Perhaps, only a portion of this sizable gain can be attributed to the achievements of the Plan itself, as some of the production increases occurred at the expense of converting areas from sugar to rice cultivation. Likewise, some increases in production were expected in the wake of a resurging economy, ravaged by long years of turmoil during the Japanese occupation and the subsequent long struggle for independence.

The momentum achieved in the Kasimo Plan came to a sudden halt, when in 1955 major floods destroyed a significant portion of the rice crop.¹ The Plan was abandoned and in Java rice production failed to increase after 1954. Again, the government was impelled to import large quantities of rice for the domestic market. Thus, from 1956 to 1960 an average of 800,000 tons of rice was annually imported for domestic consumption.² In the late 1950's rising rice imports and declining export earnings combined to plunge the government headlong into a courtship with financial disaster. By mid-1957 the government had a \$1,000,000 deficit in foreign exchange, and the Finance Minister confided to Parliament that the state had barely escaped bankruptcy.³

In response to the enormous pressures generated by critical shortages of foreign exchange and the pressing

¹Herbert Feith, The Decline of Constitutional Democracy in Indonesia, Ithaca: Cornell University Press, 1962, p. 564.

²"Statistics," op. cit., p. 88.

³Daniel Lev, The Transition to Guided Democracy: Indonesian Politics, 1957-1959, Ithaca: Modern Indonesian Project, Monograph Series, Cornell University, p. 30.

need to import larger quantities of rice to compensate for short-falls in domestic production, the government again set about devising a new programmatic formula for increasing domestic rice production. Thus, in 1959 a major program was launched for achieving self-sufficiency in rice by 1962. On Java this effort primarily entailed the provision of increased quantities of fertilizers, pesticides, improved seeds and credit to peasant cultivators. A new organizational device, identified as the Paddy Center (Padi Centre), served as the institutional mechanism for the distribution of production inputs and for the collection of repayment from the peasant. A large number of these Centers were established in Java, and each unit assumed responsibility for coordinating the rice intensification program in an area which usually included approximately 1,000 hectares.¹

While a substantial amount of resources were allocated to the Paddy Center program, it failed by a wide margin to fulfill its intended objectives. Rice production remained relatively static, whereas rice imports continued to increase even beyond the levels of earlier years. Thus, in 1961 for the first time in Indonesian history more than 1,000,000 tons of rice were imported. In that same year the Paddy Center program was seriously impaired by a period of excessive drought and shortly thereafter the program was terminated. Unfavorable weather conditions played, however, only a small part in the demise of this effort, and it is instructive, particularly with respect to the formulation and conduct of subsequent rice programs, to note what other factors accounted for the shortcomings of the Paddy Center campaign.

¹Salch Afiff and C. Peter Timmer, "Rice Policy in Indonesia," in Food Research Institute Studies in Agricultural Economics, Trade and Development, X: 2, 1971, p. 138.

One of the major deficiencies of the program concerned the excessively liberal terms under which credit was dispensed to peasant farmers. Little attention was given to the repayment capacity of borrowers; and as a result, the repayment rate was quite low. The collection of the credit was further hampered by the fact that the government attempted to collect the payment in the form of rice, frequently assessing the value of the collected rice below the free market price. This was done in an effort to collect sufficient rice for distribution to the armed forces and government employees, a form of wage and salary payment which had been in effect since the early and late 1950's. This mode of repayment also enabled the government to provision its own rice stocks. Peasants greatly resented this policy and generally, when at all possible, attempted to lower the quota of rice demanded as credit repayment by the Paddy Centers. A second deficiency of the campaign was evident in the lack of adequately trained manpower to support and staff the Paddy Centers. This problem was exacerbated by the fact that the government established a large number of the Centers in rapid fashion, thus placing an onerous burden upon a limited and undertrained pool of skilled manpower. All of the above problems reappear as obstacles in subsequent programs to increase rice production.

While perhaps consistent with the political and economic imperatives of the time, the government's 1959 to 1962 crash effort toward resolving the chronic and persistent shortage of rice was not compatible with the constraints of administrative action in Indonesia. In the few years directly following 1962, the distinguishing feature of the government's involvement in agriculture was one of inertia, as only a marginal effort was sustained in improving rice production. Again, however, as with the 1959-1962 effort, shortcomings in program implementation were most apparent at the local level where rural institutions and the basic fabric of society itself were undergoing a process of

fragmentation and politicization. The basic features of this process bear further examination for throughout the post-colonial era, rural institutions and local government on Java have not been able to provide the necessary impetus to sustain and accelerate efforts to improve peasant welfare.

The basic structure of local government adopted by the Indonesian leadership in 1950 was essentially a replica of the institutional design employed during the long period of Dutch colonial rule.¹ Local government in the colonial period consisted of a highly centralized and multi-tiered hierarchical pyramid. The base was one step removed from the village, it should be stressed, and from this base the lines of authority ascended to an apex at the pinnacle of power in Djakarta. The authority and control exercised through this apparatus reached its most refined and consummate expression on Java, where for 300 years the Dutch gradually succeeded in building up an elaborate network of transport, communication, and administrative services in support of a prospering plantation economy. Government emanated from Djakarta and, in descending order, was first manifested at the resident level, a territorial unit of government which on Java coordinated perhaps three or four district level governments beneath it. The district or Kabupaten level of government, of which there are now approximately 80 in all of Java, constituted the next tier of the hierarchy, and in turn it coordinated two other administrative subdivisions, the Kewedanaan and the Ketjamatan. Each district government coordinated four or five Kewedanaans and in turn the latter unit supervised four or five Ketjamatans. In the early years of colonial rule these government units

¹J.D. Legge, Central Authority and Regional Autonomy in Indonesia, Ithaca: Cornell University Press, 1963.

functioned primarily as instruments in the maintenance of law and order and in the extraction of taxes and agricultural resources from the village population. As colonial rule assumed a more benevolent stance, particularly at the turn of this century, local governing institutions acquired more of a public welfare orientation, and additional services were added in the provision of educational facilities, medical services, agricultural extension, and public works construction. As these new functions increased in magnitude and complexity, the need for additional coordinating mechanisms assumed more prominence, and thus in the 1920's provincial administrative units were introduced on Java to mediate between the central government and the resident levels of administration. Thus, the three provinces of West, Central and East Java assumed a new place in the territorial administration of the island.

While local and regional units of administration on Java functioned relatively well in the colonial period, they still remained relatively remote and distant from the rural population. The village itself stood outside the formal administrative hierarchy, as the Dutch preserved the traditional pattern whereby each village had its own headman (lurah). Thus, in practice the Ketjamatan constituted the lowest rung in the government's administrative ladder, and as well, served as the villagers' primary source of contact with the outside officialdom. The Ketjamatan office was staffed by not more than 10 to 12 officials administering a territorial unit which frequently consisted of 20,000 to 30,000 inhabitants. The technical ministries generally had no permanent staff or offices at this level. Below the Ketjamatan level, village government essentially consisted of two tiers, with the dukuhan as the lowest unit, and with several dukuhan comprising the desa or village. The former is headed by a kamitua, and the latter by a lurah, or village headman. These leaders generally come from within

the village itself and occupy their positions for an indefinite period of time, that is, until removed by official action from above or by popular action from below. They generally have no more than a primary education. The lurah and kamitua, and their assistants, are remunerated for their services by being given access to village communal land. The high status ascribed to these leadership positions, particularly the lurah, in addition to the income from the cultivation of communal land, plots which are much larger in size than what most peasants possess, enables their occupants to exercise a powerful and frequently dominant influence over village affairs. At election time these positions are vigorously sought after, and candidates are not adverse to spending large amounts of money in campaigning for the peasant vote.

The colonial administration was able to effectuate its control and power without having to maintain an overwhelming presence at the rural level. As in other colonialized countries the authority of the Dutch in great part rested on the one hand upon their ability to sustain the mystique of Western superiority, and on the other, upon their capacity to crush the emergence of any organized opposition to their rule. Both functions were performed quite well. The distinctive attribute of Dutch colonial policy concerned their use of local and indigenous elites to buttress western supremacy. Thus, positions of authority in the upper echelons of local and regional administration were exclusively under the control of Dutch nationals; but Indonesians were recruited to staff the lower echelons of the administrative hierarchy. Thus, from the Kabupaten downward to the Ketjamatan, primary executive authority for coordination and supervision of all government activities in each of these territorial subunits was vested in one person; at the Kabupaten level he assumed the traditional title of "Bupati;" at the Kewedanaan level, the title of "Wedana;" and at the Ketjamatan level he

was addressed as "Tjamat." All of these positions constituted a chain of command which moved upward to its pinnacle in the Ministry of Internal Affairs. In the post-colonial period each of these individuals was identified by the generic title of "Kepala Daerah," meaning the primary authority responsible for government administration in his respective territorial unit. The individuals within this special administrative service are known as members of the "Pamong Pradja," a traditional title which connotes superiority and elevation from the rank-and-file of Indonesian officialdom.

The Dutch intentionally reserved the position of Bupati, Wedana and Tjamat for Indonesians, as these positions are deeply rooted in the ancient history of Javanese kingdoms and continued to constitute a traditional source and symbol of leadership and authority within the rural community.¹ During most of the Dutch colonial period, recruitment for these positions was limited to Indonesians of aristocratic origin. While in the post-independence period, the members of the Pamong Pradja have tended to come from more diverse social backgrounds, the role of the Kepala Daerah is nevertheless still infused with the aura and vestiges of paternal and traditional authority. The enduring vitality of this ancient heritage explains why, although relatively removed and distant from the village itself, it was still able to exact compliance with Dutch rule. However, once colonial rule was cast aside, as it was in a protracted and painful struggle, and as the countryside became an arena for indigenous political mobilization, traditional sources of legitimacy and authority were found less than adequate in sustaining local governmental institutions. In this respect

¹Donald Fagg, "Authority and Social Structure: A Study in Javanese Bureaucracy," Harvard University: Doctoral Dissertation, 1958.

the epic of local government in the post-colonial era is essentially a comment in the study of institutional decay.

Upon achieving independence, the central government attempted to preserve existing forms of regional and local government, recognizing that these structures were well attuned to maintaining the supremacy of national interests at the local level. Thus, except for a brief period in the late 1950's, the Pamong Pradja continued to function as the primary instrument for exercising central government control in regional and local affairs. Nevertheless, its authority came under increasing attack and its capacity to implement government policy diminished in response to the growing politicization and fragmentation of village and rural society. The long years of revolutionary fervor had served to arouse public sentiment against all reminders of colonial oppression and for many, the Pamong Pradja symbolized the last vestiges of alien rule. Its elitist and aristocratic background seemed totally out of character with the populist and egalitarian rhetoric of Indonesian nationalism. Thus, throughout the 1950's, the political parties attempted to introduce legislation for the abolition of the Pamong Pradja and thereby subject the office of the Kepala Daerah to the process of popular election. In the late 1950's legislation to this effect won approval in Parliament and for some time it appeared that the existence of the Pamong Pradja had run its final course. This action was averted, however, when the army, increasingly a dominant contender in national politics, seeing the Pamong Pradja as both an ally in its attempt to reduce the role of the political parties, and as a source of stability in an increasingly turbulent countryside, pressed the government to suspend the legislation. Thereafter, the Pamong Pradja, although increasingly subject to the watchful eye of the army, remained intact with the power of appointment and dismissal of its membership

vested in the all-important Ministry of Internal Affairs.¹

While the hierarchical structure of the Pamong Pradja and its dominant role in local government were preserved, rapid and profound changes within Indonesian society served to diminish its former position of prominence within rural and village communities. In the post-colonial era, the Pamong Pradja and local governmental agencies came to be just one set of competitors among a multitude of newly emerging elites and organizational structures, each contending for power and authority within the rural sector.² Most important in this regard was the increased activity of the political parties in the early 1950's and their efforts to mobilize local level support. The elections for the national Parliament in 1955 and thereafter the regional elections for local level Parliament in 1957 served to heighten greatly the imperative of cultivating support in rural areas, where in fact, a majority of the voters lived.³ The scope and intensity of organized political activity rapidly expanded as the parties began to establish ties with traditional and newly emerging elites and their followers within village society itself. While at the national level, the rhetoric of political campaigning was conducted in terms of major ideological and policy distinctions, at the local level, support tended to be mobilized in terms of the more traditional symbols of cultural and social identity. With increased political activity, basic

¹ Lev, op. cit., pp. 62-74; and Daniel Lev, "The Political Role of the Army in Indonesia," Pacific Affairs, XXXVI: 4, Winter 1963-64, pp. 349-364.

² Robert Jay, Religion and Politics in Rural Central Java, Cultural Report Series No. 12, Southeast Asia Studies, Yale University, 1963.

³ Herbert Feith, The Indonesian Elections of 1955, Ithaca: Modern Indonesian Project, Cornell University, 1971; and Daniel Lev, The Transition to Guided Democracy, op. cit., pp. 84-104.

lines of conflict and solidarity which heretofore under the long period of colonial rule had remained relatively quiescent, now assumed a position of prominence, if not, dominance, in determining sources of partisan opposition and affiliation within rural society.¹ Likewise, the public bureaucracy became increasingly susceptible to these cleavages, for aside from the Pamong Pradja, the civil service did not have within its membership a common career, educational, and class background. Had these potentially unifying ties been present, they would have perhaps enabled the officialdom to act in a more cohesive and autonomous fashion vis-a-vis outside political pressures. Rather the bureaucracy fell prey piece by piece to the discord flourishing within the society around it. Local governmental agencies were frequently enmeshed in these conflicts, for their resources became an object of political contention and struggle in the effort to secure patronage and influence. At the national level, the demise of the Parliament in the late 1950's and thereafter, the increasing dismemberment and restructuring of ministerial agencies to accommodate competing political factions, only served to divide an already badly fragmented bureaucracy. It was not unusual to find a ministry despite its formal single hierarchy divided into several competing factions, further accentuating the need for authorities to use particular factional alliances to buttress their control.²

¹Clifford Geertz, The Religion of Java, Glencoe: The Free Press, 1960; and Donald Hindley, "Alirans and the Fall of the Old Order," Indonesia, 9, April 1970, pp. 23-66.

²Feith, The Decline of Constitutional Democracy in Indonesia, op. cit.; and Herbert Feith, "Dynamics of Guided Democracy in Indonesia," in Ruth McVey, ed., Indonesia, New Haven: Human Relations Area File, pp. 304-409.

In summary, in the 1950's and on through to the mid-1960's, members of the rural officialdom suffered a serious decline in their capacity to exercise authority in the rural sector. The national parties had succeeded in penetrating village society, raising the level of political consciousness and frequently transforming a tenuous community consensus into a field of competing factional alliances. Rural officials were likewise pulled into the political arena and thereby became identified as partisans in the competition for political and economic resources. The boundaries between political power and administrative discretion became less distinguishable as elements of the bureaucracy became more arbitrary and less impartial in the dispensation of services, making public policy thereby more subject to modification and sabotage in its implementation at the middle and lower echelons of the administrative hierarchy. As the level of political conflict and institutional inertia increased, particularly in the early and mid-1960's, the urgent task of undertaking agricultural development simply lost its former sense of priority and importance. Issues related to agricultural development have generally not been adequately reflected in the political process, as the parties were not widely attuned to the organization and articulation of well-defined interests, particularly in the rural areas. Political leadership has been exercised in a more traditional and ascriptive manner, whereby the elite naturally assumes its privileged position, and in turn expects acquiescence and deference from its followers.¹ As a consequence, great social and economic distance has frequently stood between the peasants and party leaders, the former valuing

¹Daniel Lev, "Political Parties in Indonesia," Journal of Southeast Asian History, March 1967, pp. 52-67.

their affiliations with village traditions and the latter being converts to the more cosmopolitan ways of a modern and urban life style. The parties were never really inclined to bridge this gap and sink their roots deep in the rural sector. For a time, elections prompted a concern for mobilizing the peasant vote, but with their suspension after 1957 party structures atrophied in the rural areas and the center of attention shifted to national concerns and to political intrigue within the capital city itself. The economics of peasant welfare and the complex problems of inducing agricultural change, and even more, the need for articulating peasant interests in such a manner that agricultural policies could be effectively formulated and executed, were not in substance an enduring and integral feature of the political process.

An exception to the above generalization seems to have been the Communist Party. In the early 1950's, a group of young and energetic leaders assumed control over the Partai Komunis Indonesia (PKI) and immediately set about building a base of support within rural and urban Java.¹ The role of the peasantry constituted a major source of concern for the PKI leadership. The structure of rural society was essentially viewed as feudal in character, with a powerful group of landholders, officials and money lenders holding sway over an oppressed and impoverished peasantry. In the early 1950's, the party did not launch a direct attack on the identified oppressors, but rather set about organizing various cultural and welfare activities for poor and landless peasants. A more radical approach was rejected in view of the party's lack of organization within the rural sector. Moreover, the PKI had to act with a great deal of caution,

¹ Rex Mortimer, The Indonesian Communist Party and Land Reform 1954-1965, Monash University: Centre of Southeast Asian Studies, 1972; and Donald Hindley, The Communist Party of Indonesia 1951-1963, Berkeley: University of California Press, 1964.

as members of the military and the other non-communist parties remained antagonistic to its participation in the political process. Nevertheless, the party's gradual and yet persevering efforts to organize at the local level yielded a handsome 16.4 percent of the total vote in the national elections of 1955. Its unqualified emergence as a major political party was made even more evident in the 1957 regional elections when it garnered an even higher percentage of the vote.

Their impressive showing in the elections provided the PKI leadership with an increased sense of confidence and conviction in their capacity to exercise a significant if not potentially decisive political role at both the national and local level. In the late 1950's, the party gradually assumed a more militant posture, enjoining village cadres to advance a greater sense of class consciousness among the landless and poor peasants. Particular effort was focused on rallying support for reduction of land rents and land redistribution. The momentum of this campaign was accelerated in 1961 when the party pressed for the immediate implementation of the newly promulgated laws on land reform and crop sharing.¹

While the PKI began to emerge in these later years as

¹In 1959, the National Parliament passed the Crop-Sharing Bill providing for a 50-50 division of the rice harvest between owner and tenant. The PKI had hoped to secure a 60-40 division in favor of the tenant, and frequently persisted in pressing for this division in spite of the official 50-50 formula. Mortimer, *op. cit.*, pp. 12-13.

In 1960, a Land Reform Law was passed by the National Parliament imposing a ceiling on the number of hectares for individual family farms, and a minimum of two hectares for those families involved in agricultural production. Landholdings in excess of the maximum were to be redistributed to landless peasants with their paying the government over time for the costs in compensation of the former owners. *Ibid.*, pp. 15-16.

a more militant and open proponent of rural change, it still avoided a direct and frontal assault on those well-entrenched officials and landed interests who by virtue of their position would resist any basic redistribution of village resources. In 1964, however, the party leadership, in a major break with its past approach to the peasant sector, launched a major campaign to hasten the implementation of land reform. Party cadres were exhorted to stimulate mass peasant action in the confiscation and redistribution of large land holdings to poor and landless peasants. Where officials were reluctant to implement land reform, peasants were urged to take the law in their own hands, and in unilateral fashion seize the land for their own needs.

Throughout 1964, press accounts frequently reported clashes between peasants bent upon confiscating land, and landholders intent upon defending their property. These conflicts became quite serious in East Java, involving individual and organized acts of violence, kidnapping and the burning of houses and crops. In many instances, PKI cadres increasingly found themselves 'on the defensive', and subject to attack from roving bands of Islamic youth groups. Sobered by the mounting intensity and violence of its opposition, in late 1964 the PKI began to pull back in its efforts at forcing the issue of land reform. However, in East Java and in parts of Central Java, the party still came under attack, and from late 1964 through mid 1965, reports indicated that some Islamic groups were pressing ahead in their assaults on the PKI. Whether initiated by the PKI or its opposition, acts of violence were frequently undertaken in defiance of local authorities. While at times, local officials were either involved in aiding or abetting acts of violence against the PKI, in other instances they took a less partisan position, but were simply unable to keep the situation in hand.

The persistent and deepening crises of institutional inertia and political discord in the decade spanning the mid-1950's to the mid-1960's had in its total impact a devastating effect upon agricultural conditions in Java. Total rice production remained static from 1953 to 1967, and whereas marginal increases were achieved in yields, these gains were nullified by a decline in total area harvested.¹ These conditions simply reflected a decline in the capacity of local infrastructure to support rice production at its former level. Thus, on Java, the road and irrigation network rapidly deteriorated as a result of inadequate maintenance, and by the early 1960's, 60 percent of all irrigation facilities and 70 percent of all roads were either out of operation or in a serious state of disrepair.²

Maintenance of irrigation canals, traditionally a task involving labor enlisted from the village, received less attention as peasants frequently refused to comply with official instructions to undertake their repair. The deterioration of the irrigation network on Java was greatly hastened by the post-war destruction of forest reserves as a burgeoning peasant population sought to open more land for the cultivation of upland crops. Local government was frequently ineffective in preventing rural dwellers from encroaching upon these natural resources. As a consequence, devastation from floods and silting of canals became a more common occurrence in many areas where increasingly sparsely forested hills failed to contain erosion and massive runoff of rainfalls. As the irrigation network became less operative, distribution of irrigation water became a serious source of intra-village conflict. Local authorities were

¹ Timmer, op. cit., p. 133.

² The First Five Year Development Plan, 1969/70-1973,
Djakarta: Department of Information, Vol. 2A, p. 122 and
Vol. 2B, p. 92.

frequently unable to prevent peasants from engaging in the covert opening of irrigation weirs, and the illegal piping of water from secondary and tertiary canals. In part, the problem of water management reflected a decline in the ability of local government to organize the planting of rice in a more systematic fashion, which would thereby have enabled peasants to irrigate their fields properly. Similarly, less attention was devoted to the execution of simultaneous planting for pest prevention. As a consequence, crop damage from rat infestation became a more common occurrence on Java in the post-colonial period.

The gradual attenuation of local government functions was also accompanied by a diminished flow of resources and support from the central government. From 1964 to 1967, fertilizer supply declined in response to severe shortages of foreign exchange.¹ Credit also became less available and the number of village money and paddy banks declined throughout Java.² Finally, the central government gradually lost much of its earlier control over rice marketing, a process which began in the 1950's when authority was given over to provincial governors for the control of regional and local rice prices. These individuals came to exercise informal discretion independent of central government directives, both in purchasing and/or selling rice to control market prices. Moreover, the practice emerged whereby regional authorities would frequently levy illegal taxes on rice trade and prohibit the export of rice to other regions in order to stabilize and depress market prices. In the words of Timmer, "rice policy, such as it was, emphasized

¹National Fertilizer Study, Republic of Indonesia, 1970.

²Sie Kwat Soen, Prospects for Agricultural Development in Indonesia, Wageningen: Centre for Agricultural Publishing and Documentation, 1968, p. 143.

consumer interests and local revenue generation. It is no wonder that production suffered and prices were unstable."¹

IV. Institutional Change and The Green Revolution: 1966-1974

The abortive coup of October 1, 1965, and the charges of involvement of the Communist Party as a prime mover in this momentous event, served to alter profoundly the character and direction of political and institutional development within rural Java.² Within one year after the coup, the basic components of the political process, heretofore held in precarious balance by a tenuous patchwork of improvised political and institutional devices, were simply reconstituted into a more simplified and stable set of relationships. The Communist Party, the only party which had achieved some semblance of success in mobilizing and representing peasant interests, was decimated, many of its members imprisoned, and thousands more killed in a series of frightful massacres in Java and Bali. The other political parties, their organizational resolve depleted and compromised after long years of political and factional infighting, assumed necessarily an even more peripheral role in the post-1965 era. Finally, President Soekarno, whose authority and eminence as a symbol of Indonesian nationhood had served as one of the few sources of stability and continuity in two decades of turmoil and instability, was removed from power and thereafter forcibly restrained from playing any significant role in the political process. In brief, the political

¹ Timmer, op. cit., p. 135.

² Daniel Lev, "Indonesia 1965: The Year of the Coup," Asian Survey, 6, Feb. 1966, pp. 103-110.

landscape assumed an entirely different configuration in the aftermath of the abortive coup. The prime mover behind these changes was the army; since the 1950's a dominant political contender, it now assumed an ascendant role at all levels of government.¹

While a major realignment in the balance of political forces rapidly emerged in the post-1966 era, the old problems of economic and institutional deterioration still remained as formidable impediments in the achievement of political stability. The civil service was deeply fragmented and demoralized, and with diminishing sources of revenue, increasingly less effective in the dispensation of public services. All sectors of the economy continued to experience declines in production, and rampant inflation was further heightened by a government forced to maintain itself by hand-to-mouth deficit financing. The point had been reached where no regime could avoid addressing these problems and devising some means of at least holding in check - if not hopefully reversing - an accelerating trend towards economic disaster. Thus, in the years immediately following 1966, stringent measures to curb government expenditures were introduced and accompanied by equally aggressive efforts in cultivating foreign sources of assistance. Government policy essentially focused upon balancing the forces of supply and demand, hoping thereby to achieve the stability requisite for undertaking more long-term economic planning.²

By 1968, impressive gains had been achieved in

¹Justus van der Kroef, Indonesia After Sukarno, Vancouver: University of British Columbia Press, 1971.

²Bruce Glassburner, "Indonesian Economic Policy After Sukarno," in Bruce Glassburner, ed., The Economy of Indonesia, Ithaca: Cornell University Press, 1971, pp. 426-443.

controlling inflation and similar advances were made in expanding revenue and capital from domestic and external sources. Authorities in Djakarta were now prepared to engage in more long-term development efforts; and thus in 1969, the first five-year plan was initiated. Again, as in the past, the attainment of self-sufficiency in rice production was identified as the primary plan target. In detail, the plan goal was defined as one of achieving self-sufficiency in rice production by 1974, an increase which in magnitude would entail raising production to a level something over 50 percent above the current 1968 level of production. Most authorities were optimistic that such an increase could be obtained, principally by bringing off a Green Revolution in Java. In 1968, the high-yielding varieties (HYV's), developed at the International Rice Research Institute in Los Baños in the Philippines, were for the first time made available on a limited scale to Indonesian farmers, and many of the planners in Djakarta were confident that the reported achievements of the Green Revolution in places like India and the Philippines could now be replicated in Indonesia. Thus, in 1969, when the plan was initiated, major emphasis was placed upon securing peasant acceptance of the HYV's, particularly on Java, Indonesia's rice bowl.¹

The new program to increase rice production assumed the form of distributing on a massive scale, fertilizer, pesticides and high-yielding seeds to several million farmers. Thus, in the 1969/70 wet season the campaign was expected to cover 1.1 million hectares, and this level of activity was to be sustained during the entire five-year plan. In the initial plan years, the basic program

¹For an analysis of the background and subsequent execution of the five-year plan in the agricultural sector, see my paper, The Politics and Administration of Rural Development in Indonesia, Berkeley: Center for South and Southeast Asia Studies, 1973.

features were in great part determined by policies and instructions emanating from Djakarta. Thus, targets were essentially handed down from above concerning the total number of hectares to be covered in any one district or sub-district. Each village in turn was given its own quota, and on the whole, local government was given little opportunity to negotiate or alter these targets in advance of their determination in Djakarta. Neither were local institutions for that matter allowed to accommodate the program to local needs. Fertilizers, pesticides and seeds were distributed in the form of a standard package, and in effect, local government was relegated to the role of securing peasant support of the program, assuring that the input packages were delivered on time and after that, making certain that their contents were applied in the appropriate manner. In executing the first task of securing peasant acceptance, local government organs performed relatively well. Serious obstacles, however, were encountered in the accomplishment of the latter functions.

In the early plan years, the central government was little prepared to tolerate peasant non-compliance in the adoption of the HYV's. The new rice technology was seen as being clearly superior to traditional methods, and while peasants might not initially offer their support of the program, local officials were expected nevertheless to secure their participation. Coercion and heavy-handed bureaucratic techniques were therefore exercised in overcoming peasant resistance to the new campaign. Local government was in a position of being able to exercise this power effectively, largely because in the aftermath of the abortive coup, most non-governmental organizations in the rural areas, which could have articulated peasant interests and thereby held the bureaucracy in check, were either inoperative or chose not to challenge or criticize a policy which obviously assumed a position of high priority

in the government's development effort. The violence following the coup had served to cast a heavy pall over rural Java, and most peasants and rural leaders were much less inclined to risk involvement in any form of organized political activity, let alone opposition to government programs. This mood of passivity and submission was further reinforced by government policies which in great part were designed to reduce to a minimum, organized political activity within the village itself. In particular, many army leaders viewed the activities of the political parties as destructive of village cohesion, and following the coup, a deliberate effort was made to weaken their influence at the village level. In great part this was accomplished, when, directly after the coup, nearly every district head (Bupati) on Java was replaced by an officer from the army, usually of colonel rank. Likewise, many village lurahs were replaced by veterans or recently deactivated members of the army. To further buttress government hegemony in the countryside, the army created its own hierarchical structure parallel to the territorial units of local and regional government. Thus, all levels of civilian government from the province down to the village are now complemented by a counterpart army command with functioning authority over the respective territorial jurisdiction. At each level in the territorial administration, both the military and civilian structures are connected by a MUSPIDA (Musjawarah Pimpinan Daerah or Regional Leadership Council). The council members include the Kepala Daerah, the local army commander, and other military and civilian authorities in the local administration. Its official mandate remains vague, but it is usually called into session on matters of critical importance to regional and local affairs.

In summary, since 1966, the army has been quite effective in expanding its hold over local government, and in

turn the political parties have lost much of their former influence within the ranks of the civil service. The role of the parties in local government was further reduced as a result of the 1971 national elections. Prior to this time, the parties still held a majority of seats in district and provincial assemblies and were thereby able to exercise some influence over the course of regional and local administration. In 1971, all of these seats came up for election, and unlike previous elections the army mounted a vigorous campaign to establish its own presence in local and provincial assemblies. Its primary instrument in this effort was an old, faction-ridden parliamentary group dating back to the pre-1965 period, "Sekber Golkar," otherwise known as Golkar (Functional Groups).¹ Just prior to the 1971 election, the army rapidly transformed this organization into a vehicle for representing its interests among the voters. In campaign techniques, the dual structure of local army and civilian authority was used as the primary instrument in mobilizing support for Golkar. Thus, many members of the Pamong Pradja, including village and hamlet heads were compelled to terminate their ties with the other political parties and join an affiliate organization of Golkar. At the local level, formal positions of leadership were frequently occupied by military authorities. Golkar's formidable display of support among civilian and military functionaries simply reinforced a pattern of voter apprehension in identifying with any organization which lacked the seal of official approval; and as a consequence the elections produced a landslide Golkar victory. Golkar captured 62.8 percent of the vote, more votes in fact than the military

¹R. William Liddle, "Evolution from Above: National Leadership and Local Development in Indonesia," The Journal of Asian Studies, XXXII: 2, February 1973, pp. 287-309; and Harold Crouch, "The Army, the Parties and Elections," Indonesia, 11, 1971, pp. 187-191.

had anticipated, with the remaining votes being divided primarily among three of four other parties. In effect, the elections had served to relegate the parties to a minor if not insignificant role in local and regional government. Nevertheless, while Golkar held a majority of seats in all district and provincial assemblies in Java, it lacked a clear sense of mission with respect to its own long-range goals, and the momentum and drive it had generated soon dissipated after the election. In terms of the peasantry, the elections did not represent a basic change from previous conditions, as neither Golkar nor the other now more enfeebled political parties were prepared to represent its interests consistently before the government.

In brief, in the post-1966 period, local civilian government and its military counterpart increasingly stood out as the primary, if not solitary representatives of organized power in an otherwise relatively atomized and quiescent countryside. The preeminence of government authority had obvious implications with respect to securing peasant support in such campaigns as the post-1969 rice program. Even though this program came to be quite unpopular in the eyes of the peasantry, and even though government officials continued to demand peasant support for the campaign, at no time was either the policy or its heavy-handed administration the subject of organized criticism or opposition within the rural sector. Some local assemblies did express their reservations about the program, but since the rice campaign was under the sponsorship of the central government, it was simply beyond the authority of these local legislative bodies to be able to terminate a centrally-funded program. While the Kepala daerah could exercise such authority, his position was compromised by the fact that while he must represent the interests of his particular territorial jurisdiction he must also act on behalf of the

center, and the latter usually prevails where major policy questions are at issue. The dual function of the Kepala Daerah is a continual and major source of frustration for those, who at the local level, would wish to expand the prerogatives of local government vis-a-vis the center.

While local organs of government were generally effective in securing peasant compliance with the rice program, they were much less effective in providing the necessary services in support of the campaign. Thus, the delivery of inputs frequently arrived late at the village and farmers were given little guidance on the use of fertilizers and pesticides in the growing of the HYV's. These inadequacies simply reflected the fact that local agencies were overtaxed in their efforts to administer a massive program. The extension service in particular has been woefully short of trained personnel. In any one district there were approximately 30 to 35 extension workers serving an average population of one million or more. Much of their efforts at times are devoted to administrative tasks rather than to actual extension work among the farmers themselves. A more deep-seated problem concerned the inability of district level staff to coordinate the multitude of government agencies involved in the rice campaign. In particular, coordination of those agencies involved in the dispensation of fertilizer and credit - and likewise in the administration of the price support program - has been difficult. All these agencies are under the direct control of Djakarta. They are responsive to the Bupati, but only to the extent that his instructions are not inconsistent with policies emanating from the central government. The other technical ministries, which in theory are answerable to the Bupati, likewise act in a fashion relatively independent from his control. This occurs for the reason that technical agencies at the district level, such as the Department of Public Works or the Department

of Agriculture, are in great part dependent upon their head ministries in Djakarta for most of their budgetary resources. Thus, for example, all program funds for extension work in support of the rice campaign pass through the Ministry of Agriculture in Djakarta and then directly downward to the respective Departments of Agriculture at the provincial and district level. The office of the Kepala Daerah is not involved in the transmission of these funds. The Kepala Daerah has no funds to hold out in competing for the attention of these technical departments, and therefore, Departments of Public Works or Agriculture at the district level will commonly be more attentive in meeting the needs of their respective ministries in Djakarta, than they will be in responding to the Bupati.

These comments should not be construed as meaning that the authority of the Bupati is negligible; in matters of importance where he makes a deliberate decision, his word will usually prevail. Rather, these observations illuminate the fact that in terms of day-to-day organizational operations, most departments at the district level are highly dependent upon funds and policies emanating from Djakarta; this condition reflects the underlying structure of local and regional finance in Indonesia. Both under the colonial and post-colonial administration, tax collection has been almost exclusively monopolized by the central government. Thus, for example, in fiscal year 1969/70, 98.6 percent of all tax revenues were collected by the central government, a percentage which in magnitude is consistent with the levels attained throughout the 1950's and 1960's.¹ The central government has in large part preempted the most important revenue sources, leaving local and regional

¹R.S. Smith and Theodore M. Smith, "The Political Economy of Regional and Urban Revenue Policy in Indonesia," Asian Survey, XI: 8, August 1971, p. 785.

governments an inordinately narrow tax base upon which to build their own revenue system. Thus, in fiscal year 1969/70, 80 percent of the budget of the provincial government of central Java came as a subsidy from the central government.¹ In the same year, district governments in central Java received from 40 to 60 percent of their total budget in the form of a subsidy from the central government.²

The centralization of revenue collection has fostered a dependency relationship, wherein local governments have frequently overlooked opportunities for tapping their own revenue sources and have rather overstated their needs in order to obtain funds from the central government. This practice has been encouraged by virtue of the fact that a standard formula has not been established for the center's distribution of the subsidy. Supposedly, the size of the subsidy has been linked to the number of civil servants employed by the recipient local government, but in fact, the amount of the subsidy frequently does not correspond with this criterion.³ Some local authorities have alleged that the center has been less than impartial in its distribution of subsidies. This suspicion and the lack of a definitive formula by which to distribute the funds must provide a strong incentive for local governments to exaggerate their needs for more subsidies from the central government.

Central government subsidies are exclusively earmarked for routine budget expenditures (salaries, maintenance, etc.) as local governmental units are unable to generate sufficient funds for these purposes. The subsidy usually falls

¹ Ibid., p. 765.

² Ibid., p. 768.

³ Ibid., pp. 772-773.

short of meeting all routine budgetary needs, and it is not an uncommon practice for a provincial or district government to transfer a part, if not all of its own development budget to meet routine expenses. Thus, in 1968, the provincial government of West Java transferred 75 percent of its development budget to meet expenses incurred under the routine budget.¹ Under these conditions, the line departments, like the Department of Agriculture or the Department of Public Works at the provincial and district level, find that their primary flow of development funds derives from the ministries in Djakarta, rather than from the provincial or district levels of government. Accompanying these development funds are additional resources to supplement salary and routine expenses. Regional departments are therefore intent upon maintaining a close link with the central ministries. Finally, it should be mentioned that in terms of career promotions, for the district head of a department who aspires to move up to the department's provincial level and beyond, the decision concerning such a promotion is made by his superiors at the provincial level and in Djakarta. He is therefore quite attuned to meeting the expectations of his superiors at these levels.

In summary, the authority of the Bupati in the control and coordination of the district level departments is constrained by a lack of resources to support such an undertaking. This weakness is further reinforced by a lack of trained manpower within the Bupati's own executive staff. Thus, for example, few if any of his staff would have a university education, whereas in the technical departments, it is increasingly the case that district level offices will be headed by a young man with a master's degree. Thus, in status and education, the latter individual will frequently

¹Martin Sanders, "Regional Finance," Bulletin of Indonesian Economic Studies, VI: 2, July 1970, p. 73.

be superior to the staff of the Bupati. It is only recently that some Bupatis have begun to employ on their staff young men and women with advanced degrees. Typically, there might be one such person, who will usually head up a new planning office, a function which has only recently been formally acknowledged at the district level.

All of the above problems took their toll early in the evolution of the government's post-1969 rice campaign. Local government was simply not prepared to undertake a massive and sophisticated effort to achieve the widespread acceptance of the new rice technology. Neither was the central government prepared to undertake basic administrative reforms in improving the performance of local government. There is a general reluctance to add new personnel as many feel that the bureaucracy is already oversized and under-worked. There is some recognition of the fact that basic institutional reforms will have to be undertaken; but this is seen as a long-term process, whereas the government's rice campaign has been initiated with a great sense of immediacy and urgency. During the first two years of the program, a number of foreign firms, under contract with the Indonesian Government, assisted in the distribution of fertilizer and pesticides for the rice program.¹ Their participation constituted an attempt by the Government to avoid for the time being, basic reforms of domestic institutions, and to compensate for its weaknesses by employing outside assistance. It was soon discovered, however, that the foreign companies were much less effective than anticipated, particularly in the timely provision of inputs at the village level.

By 1970, slightly more than a year after the initiation of the five-year plan, it was generally recognized that

¹The major foreign firms involved in this endeavor were Ciba (Switzerland), Hoechst (West Germany), A.H.T. (West Germany), and Mitsubishi (Japan).

the Green Revolution program had aborted, and that basic reforms would have to be undertaken in order to sustain the government's commitment in achieving self-sufficiency by 1974. Many of the problems were administrative in character in that agricultural inputs were not being delivered to the village on time and adequate instructions were not being given to the farmer in using the inputs. However, many of the problems were also policy issues. Farmers were particularly resentful that they had to accept a standard package of inputs. The quantity and quality of the package contents frequently did not meet their needs and expectations, and local government had no authority to tailor the package to local conditions. As a consequence of both policy and administrative deficiencies, yields from the HYV's were less than expected, and farmers grew more resistant in paying back the full measure of credit advanced to them in the form of the input package.¹ By early 1970, massive debts were accumulating on government ledgers as a consequence of widespread defaults in credit repayment, and in the following summer, the government simply terminated the program and set about devising a new formula for rejuvenating the Green Revolution.

The new program unfolded in the late summer of 1970, and its basic features essentially embodied a more flexible and less coercive approach in eliciting peasant acceptance of the HYV's. Thus, the package concept was liberalized and peasants could now request variations in its contents. Perhaps the most important innovation occurred in the exercising of more restraint in the dispensation of credit. Heretofore, credit was given out to a block of farmers on

¹For an account of village level reactions to the government's rice program, see my "Episodes in Rural Modernization: Problems in the Bimas Program," Indonesia, 11, April 1971, pp. 63-81.

adjacent plots, and all within the area were forced to accept the credit. The block system, an approach greatly disliked by peasants, was abandoned in the new program and credit henceforth granted on an individual basis. With this innovation, the coercive aspects of the old program diminished as local banks refused to grant credit to those who might not be inclined to repay. Following in the wake of this change, the planning process also began to function in a more decentralized manner as local level units were given greater opportunity to negotiate targets with the units above them.

In summary, the underlying impact of all these policy and administrative changes was to return some power of decision-making back to the peasant, a prerogative which heretofore the government had unsuccessfully tried to exercise on his behalf. In great part the peasant could now decide whether he wanted to plant HYV's, and in turn likewise vary the inputs of fertilizers and pesticides to his own liking. The new program, however, had still to tackle the issue of how to improve the delivery system for these inputs. This problem became all the more critical as the services of the foreign firms were terminated, thereby, throwing the full brunt of dispensing fertilizer and pesticides onto the structure of domestic institutions. In this regard, it was increasingly recognized that the government lacked an ability to penetrate effectively beyond the Kabupaten level in the administration of the rice program. The campaign thus suffered from trying to make too many decisions at the Kabupaten level, or from delegating too much authority downward to the village level, particularly to the village headman. The Kabupaten level of government was too removed from local conditions to respond effectively to farmer needs, whereas the village headman was frequently too enmeshed in his own village alliances to allocate program resources in an impartial manner. Too many

lurahs had succumbed to misusing fertilizer and credit in order to enhance their own personal interests. In order to avoid these pitfalls the government now sought to create an intermediary organization between the village and district government which could assume major responsibility for allocating production inputs in the rice campaign. This new organizational entity came to be known as the "unit desa" or "village unit." In structure it consisted of a representative of the government bank with two assistants recruited from local villages, an extension worker, and finally a fertilizer retailer. These three agents were supposed to work in concert in the delivery of credit, fertilizer, and extension services in support of the government's program. A village unit usually covered an area of 600 to 1,000 hectares and a population of 1,800 to 3,000 farmers.

As village units spread throughout Java in the early 1970's, some advances were made in the more orderly and timely delivery of credit and agricultural inputs at the village level. The most impressive gains occurred in the area of loan repayments. Since 1970, over 90 percent of all government credit extended to peasants in the rice program have been recovered--a sizable increase in comparison to the much lower repayment rates of the 1960's. The improvement in loan repayments reflects an effort to limit loans to only those farmers who demonstrate a definite repayment capacity, thus to the larger rice farmers. The introduction of more stringent criteria in credit dispensation has probably served to reduce bank clientele to a fairly stable set of farmers, as bank records indicate no major increase in the number of borrowers on Java in the past few years. In effect, the village unit appears to have contributed to the stabilization of the government's program. The total number of hectares involved in the rice program has not in general greatly exceeded the

levels attained in 1970, the period prior to the introduction of the village units. The lack of further growth and expansion may in part be accounted for by a decline in participation of the small farmer as loan restrictions have become more stringent. In brief, the village unit may have brought a more orderly administration in credit distribution, but at the apparent cost of excluding the small farmer from acquiring access to the new rice technology.

A final component of the village unit was the "Village Work Unit" (Badan Usaha Unit Desa), commonly referred to as the "BUUD." A detailed analysis of this organization will be undertaken in the final chapter of this monograph, but in brief, it was initially intended that the BUUD would work in close conjunction with the other elements of the village unit in the provision of processing, storage and marketing facilities. Ultimately, it was envisaged that the BUUD would supersede the village unit and thereby provide the full range of services, including the distribution of credit and production inputs, needed to support the process of agricultural modernization. The movement to establish the BUUD was initially undertaken at a pace much slower than the rapid creation of the other components of the village unit. The number of BUUD's increased rapidly, however, in the final year of the plan (1973/74), when they assumed a critical and controversial role in its implementation.

While the village unit has functioned to systematize the process of credit dispensation, its accomplishments have been less pronounced in the areas of input distribution and extension. With respect to fertilizer distribution the government subsidizes the price for those peasants engaged in improved rice cultivation. Thus, the retail price of 1 kilogram of fertilizer has been fixed at 40 Rupiahs, a level well below domestic and world prices on the free

market. Prior to 1970, the retailing of fertilizer was monopolized by a government firm, but with the introduction of the village unit, the private sector was permitted to engage in fertilizer sales. It was envisaged that the village unit would consist of several retailers, each hopefully competing with the other, and thereby improving the peasants' access to their services. In practice, this policy, however, has not worked to improve the distribution of fertilizer significantly. The source of this problem is twofold.¹ First, profit margins in the distribution of subsidized fertilizer for the government's rice program, are heavily weighted in favor of the importer and wholesaler. Few profit incentives have been provided for the retailer to invest in the development of markets and sales promotion, particularly in more remote village areas. Transport costs to more distant markets are frequently high enough to necessitate raising the subsidized price in order for the retailer to break even. Retailers have therefore been more inclined to service the free market, where the current price of fertilizer ranges from 70 to 80 Rupiahs, a level well above the subsidized price. As a consequence, the quantity of fertilizer available for those areas involved in the government's rice program has frequently been less than adequate for lack of effective retailing.

The above problem has been compounded by the inclination of district governments to pressure local retailers in expanding the distribution of subsidized fertilizers in those areas where the supply has been deficient. These measures have not been effective and have probably discouraged retailers from engaging in long-term investments for marketing in areas where they might be subject to further

¹John Kolff, "The Distribution of Fertilizer," Bulletin of Indonesian Economic Studies, VII: 1, March 1971, pp. 56-77.

government regulation. Attempts to regulate retail distributors only serve to heighten the fear of a return to government monopoly over fertilizer trade and further incline the retailer to settle for quick payoffs in more secure market areas.

Only marginal improvements have been made in the provision of extension services to farmers through the village unit. Some younger extension personnel have been added to the ranks but the extension service is still quite small, numbering on Java between 3,000 and 4,000, and in great need of up-grading in technical knowledge. Improvements in extension are vitally needed in order to exploit further the potential of the high-yielding varieties. Fertilizer and pesticide use has not kept pace with the increased adoption of the HYV's, a condition which reflects in part a lack of experience and knowledge among peasants concerning their appropriate mix in the total production process. Only minor variations in the amount, kind and timing of fertilizer and pesticide application can make a major difference in whether harvest yields attain or fall below their full potential. Matching factor inputs in a more productive fashion will depend upon an accelerated program in the dissemination of technical knowledge, and in effect this will entail an upgrading and expansion of the extension service. The extension function has been a sorely neglected area and is in urgent need of attention, particularly as new varieties, some of which are being developed in Indonesia, are made available to farmers, thereby reinforcing the need for increased technical expertise.

In summary, since 1969, a number of policy and institutional formulas have been improvised to enhance agricultural productivity. In the early plan years, policies were encased within a set of rigid constraints and administered in an inflexible and unyielding manner. Little concern was in evidence for the complexities and variations

of farm conditions at the local level. Likewise, a short-term preoccupation in the achievement of production goals assumed precedence over the development of institutions and capacities for a long-term effort in rural change. As policies unfolded in later plan years, a discernible shift in emphasis occurred as pressures for achieving the goal of self-sufficiency subsided, and a concomitant concern emerged in the building of institutional capacities for expanding and enhancing agricultural services at the local level. Greater recognition was given to the limits of central government action in the generation of rural change and to the need for enhancing peasant initiative in the adoption of the new rice technology. Similarly, additional attention was being focused on assuring that peasants received the full range of income benefits in their use of the new varieties. All of these concerns were expressed in the effort to introduce the so-called BUUD, an endeavor which assumed a major role in rural development particularly in the last year of the plan (1973/74). Further analysis of this activity will follow after some tentative comments upon the Green Revolution itself and its impact in enhancing rural welfare.

V. The Impact of The Green Revolution

An assessment of the impact of the Green Revolution in Java based upon production totals is an extremely difficult task. The problem is complicated by the fact that in Java several agencies have been responsible for gathering statistics in rice yields, and each has traditionally arrived at highly divergent figures on annual rice production. Both the Central Bureau of Statistics and the Department of Agriculture collect and tabulate production totals for Java, and the former agency has consistently arrived at totals which are lower than those advanced by the latter Department. Beginning in 1970 the two agencies

agreed to negotiate a common annual estimate, a figure which in effect represents a point mid-way between the low enumeration of the Bureau and the higher estimates of the Department. Production totals arrived at by processes of negotiation in no measure obviate the fact that major discrepancies in statistical data persist, and as such they serve to cast a high degree of uncertainty and doubt on any attempt to evaluate the achievements of the first five-year plan. Nevertheless, given these limitations, the statistics as revealed in Table I indicate that production increases were achieved in the early years of the plan, thereafter followed by a decline in production in the later plan period.

Table I: Rice Production in Indonesia*
(000 Tons)

1968	10.9
1969	11.4
1970	12.1
1971	12.8
1972	12.2
1973	12.5
1974	13.3 (Predicted)

* Statistics secured from various sources

This interpretation of the aggregate data is given further credence when supplemented with contextual analysis of the 1969-74 period. First, weather conditions were generally favorable for the early plan years. Second, as recorded in Table II, fertilizer use increased by a sizable margin after 1968. Third, a much more aggressive approach was undertaken in the early plan years to secure peasant acceptance of the HYV's. Finally, survey data and farm studies clearly indicate that many farmers were achieving

Table II: Estimates of Fertilizer Use on
Foodcrops, 1959-1970
(000 Nutrient Tons)

Year	Type of Nutrient			Total
	N	P ₂ O ₅	K ₂ O	
1959	0.3	0.1	---	0.4
1960	2.1	0.9	---	3.0
1961	17.1	6.2	---	23.3
1962	52.0	20.4	0.6	73.0
1963	58.1	12.3	0.4	70.8
1964	87.6	17.0	0.8	105.4
1965	58.9	27.9	3.5	90.3
1966	61.0	18.8	0.7	80.5
1967	43.0	5.4	0.4	48.8
1968	95.0	24.4	0.4	119.8
1969	155.2	36.3	1.0	192.5
1970	162.1	31.6	3.6	197.3
1971	Data Not Yet Available			
1972	Data Not Yet Available			

Source: National Fertilizer Study
FAO Production Yearbook 1972 gives the following
figures for 1971: 196.3, 66.8 and 0.4, for a
total of 263.5.

increased yields during these years. Similar evidence can be mobilized to explain the loss of momentum in the final years of the plan. A sustained period of drought in Java in 1972 gave rise to a severe shortage in the domestic supply of rice and to spiraling rice prices throughout Indonesia. Decreases in production in the 1972-74 period were also an outgrowth of administrative changes in the government's rice program, particularly in the narrowing of criteria for credit dispensation. In summary, there seems to be sufficient evidence in support of an aggregate production profile which indicates an initial upturn in production followed by a decline in the latter years of the plan. Further attention needs to be focused on the disaggregation

of production totals in order to determine the range and variation of benefits to individual farmers.

The most comprehensive data of farm level rice yields have been gathered by the Agro-Economic Survey, an organization established by the Indonesian Government in 1965, with the purpose of conducting systematic survey research on agricultural and rural conditions.¹ Analysis of their findings is now available for the period of 1968-71, during which 20 villages in Java were surveyed for five successive rice harvests. The data indicate that yields from the HYV's exceeded the yields of local and national varieties by an average of 20 to 30 percent. The distribution of these production gains is quite uneven, however, when comparing discrete cases at the farm level. Thus, in the dry season of 1969 in the village of Gemarang in East Java, yields from the HYV's were higher than local varieties by a margin of 206 percent, but in the village of Djanti, also in East Java, yields from the HYV's were 10 percent less than the yields of local varieties. For the whole of East Java, increases in yields of HYV's over local varieties in the wet season of 1970-71 ranged from 20 percent to 114 percent.²

The wide range of variation in HYV yields is an important fact to note. It is frequently suggested that many of the small peasant farmers in Java are reluctant to adopt the seeds because of the prospect that their yields will fail to equal or exceed the level of production obtainable with local or national varieties. This argument rests on the fact that the existence of the small farmer (less than .5 hectares) is quite precarious at best. A possible

¹ Sajogyo, op. cit., p. 17.

² William Collier, Impact of the High Yielding Varieties on the Farmers' Production of Rice in Indonesia, Agro-Economic Survey, Indonesia, Research Notes No. 5, January 1972, p. 16.

setback in only one season's crop with the use of the HYV's would have serious repercussions in terms of his capacity to maintain a minimum subsistence income. Systematic research has not been conducted on this risk factor as a possible element in farm-level decision-making, but it is interesting to note that many of the larger farmers of Java (half hectare or above) avoid turning their rice fields over for the exclusive production of HYV's, preferring rather to diversify their rice crop between the HYV's, local, and national varieties.

At this juncture, it is important to mention that the Agro-Economic Survey is unable to provide us with any definitive information on the relative differences in the adoption in yields of HYV's by small and larger farmers on Java. Their survey sample of 600 farmers on Java was chosen from three distinct strata--large farmers, participants in the government's rice program, and non-participants in the program. As a result of this selection criterion, the sample is heavily skewed in the direction of representing Java's more prosperous and larger farmers. Most of the sample farmers are owner-operators cultivating fields which on the average exceed a half hectare. In the words of Sajogyo and Collier, two of the principal participants in the organization of the survey, the "sample farmers can thus be seen as being in the top 30 to 40 percent (of all of Java's farmers) in terms of farm size and as being the group of older, most established farmers in their villages."¹ Finally it should be added that all 20 of the villages included in the survey were intentionally selected from areas where irrigation, market, and processing facilities were easily accessible to the farm population. In brief, in terms of farmers and area selection one sees the Green Revolution in

¹Adoption of New High-yielding Rice Varieties by Java's Farmers, undated manuscript, p. 7.

Indonesia at its best when viewed in terms of the production data gathered by the Agro-Economic Survey. Java's lower peasant strata, numbering between 56 to 67 percent of all of Java's farmer-operators, were not adequately represented in the sample; nor are the many villages where deficiencies in infrastructure and imperfections in market services would in and of themselves constitute serious impediments for securing high yields with the HYV's.

A more accurate picture of the Green Revolution and its impact upon production is perhaps available in a study conducted by Satya Wacana Christian University in the district of Klaten in Central Java during the dry season of 1971 and the wet season of 1971-72.¹ Using a larger and more broadly based sample in three villages, it was observed that yields from the HYV's in the two harvest seasons were significantly higher in only one of the three villages. Thus, in the village of Pluneng, the HYV's outperformed local varieties by 53 percent in the dry season and by 27 percent in the following wet season. In the other two villages mixed and marginal gains were recorded.² In brief, the Klaten survey, in which smaller farmers did receive adequate representation, conveys a somewhat less favorable picture of the Agro-Economic Survey. Additional

¹ Changes in Rice Farming in Selected Areas of Asia, A Study in Klaten Regency, Central Java, Dry Season 1971 and Rainy Season 1971/1972, Salatiga: Institute in Social Sciences, Satya Wacana Christian University, 1972.

² In the village of Nganjat, yields from the HYV's exceeded those from local varieties by a margin of 11 percent in the dry season, and in the following wet season local varieties outperformed HYV's by a margin of 8 percent. In Kahuman few discernible differences were observed in the yield levels between HYV's and local varieties for the dry season; but in the wet season, HYV's outperformed local varieties by a margin of only 5 percent. Ibid., p. 45.

research will need to be undertaken in order to generalize further about HYV yields among the smaller farming units of the population. Nevertheless, existing data reveal that the HYV's are frequently erratic in their performance, and that yields from local varieties frequently equal levels attained by the HYV's. In short, the Green Revolution in Indonesia, while certainly improving production, has not wrought the dramatic changes which its more steadfast adherents had hoped to achieve.

A crucial question remains as to whether these production gains have been translated into genuine and real increases in income and welfare for the farming population. Given the lack of data and the complexities involved in measuring regional and local variations in rice prices and cost of labor and material inputs, it is difficult to arrive at any detailed statement about real income gains in the rural sector for the past five years. Nevertheless, there is sufficient evidence upon which to base some tentative conclusions. First, it can be stated that peasants using HYV's have frequently been rewarded with higher incomes. Based on a survey of nine villages throughout Java in the wet season of 1970-71, Sajogyo and Collier concluded that with the exception of Central Java, major income gains were attained with the use of HYV's as opposed to local and regional seed varieties. In both East and West Java, the net income of those farmers adopting HYV's was approximately 50 percent higher than with farmers who depended exclusively on local and national varieties. In Central Java net income was only 11 percent higher for the HYV's. The evidence from other sources supports these generalizations although they contain numerous reminders that the HYV's can also have an adverse effect on income.¹ Thus, in the village of Nganjat in the district of Klaten, the 1971-72 wet season harvest

¹Sajogyo and Collier, op. cit., p. 27.

of HYV's was below the yields attained with local varieties.¹

It should be reiterated again that the above income estimates and others like them tend to be representative of those areas in Java where irrigation and marketing facilities are easily accessible and where high mobility of labor and other agricultural inputs would favor lower production costs. Likewise, the government's price support program for rice is probably more effective in these areas than in the more remote villages of Java. The subject of price supports for rice immediately brings to the surface the crucial question on the measurement of real income increases, i.e., the extent to which income gains have enabled the peasant farmer to increase his purchasing power of food and household items in rural market centers.

Since 1970, the government has attempted to stabilize rice prices by maintaining a ceiling and floor on rice prices. The government purchases or sells rice depending upon whether rice prices exceed the ceiling or fall below the floor. In theory this policy is supposed to provide adequate production incentives for the rice farmer and at the same time protect the consumer and the economy from inflationary price increases. In practice, however, the policy has tended to favor consumer interests at the expense of the farmer. Thus, the floor price remained unchanged from its announcement in 1970 until 1972, even though prices were rising on other consumer items. Likewise, the administration of these policies has been less than energetic in maintaining the floor prices, and frequent complaints have been advanced from areas where rice prices have fallen below the guaranteed floor price.

In short, the overall impact of the price stabilization program, particularly in the early plan period (1969-72),

¹Changes in Rice Farming in Selected Areas of Asia, op. cit., p. 45.

has served to depress rice prices and has therefore eroded away much of the income benefits sustained by farmers using the HYV's. Thus, Timmer, in comparing variations on rice prices with the non-food price index for the period of 1968-71, concludes that despite a 20 percent increase in rice production, real incomes in the rural areas probably declined in these years.¹ More disturbing evidence can be gleaned from the statistics on total food consumption and production. Thus, since 1965, a notable trend has emerged in the declining production of food items which constitute Java's major source of carbohydrate consumption (maize, cassava, sweet potatoes, and soybeans). More to the point, per capita consumption of carbohydrate foods was less in 1970 than it was in 1964.²

In summary, while the Green Revolution has demonstrated its capacity to increase productivity, there is less convincing evidence concerning the flow of real benefits to the producers. It appears that the losses sustained in real income during the 1969-72 period were temporarily recovered in the post-1972 period when rice prices soared in response to domestic and worldwide food shortages. Nevertheless, the government has since acted with determination in forcing down rice prices even though prices on other essential commodities have continued to rise. The balance would still seem to put the farmer at a distinct disadvantage with respect to the value of his rice relative to other consumer items.

A final question to be addressed concerns the Green

¹C. Peter Timmer, Objectives and Constraints in the Formation of Indonesian Rice Policy: A Proto-type Essay, Stanford Rice Project, Working Paper No. 2, September 1973, p. 75.

²H.W. Arndt, "Survey of Recent Developments," Bulletin of Indonesian Economic Studies, VII: 1, March 1971, p. 17.

Revolution and the relative distribution of its benefits and losses within the farm population itself. In this regard, attention must be focused upon the farmers themselves and those among them who have opted for the HYV's. Based on a six-season survey of the Agro-Economic Survey (1968-71), the following regional profile was established with respect to the adoption of the HYV's. In West Java, peasant use of HYV's increased from an initial 8 percent to 27 percent, in Central Java 6 to 15 percent, and in East Java from 14 to 32 percent.¹ The analysis from the Agro-Economic Survey further indicates that large farmers are the primary adopters of the HYV's.² Sajogyo interprets this data as indicative of the small farmers' inability to acquire working capital to finance the higher input costs of HYV's.³ It must be remembered, however, that the Agro-Economic Survey sample is heavily weighted in favor of the larger farmer and therefore does not provide a reliable assessment of small farmer response to the new seeds. Information of this kind, available from farm level studies, indicates rather contrasting levels of participation among small farmers. Thus, in the district of Klaten, where average farm size is generally lower than for most areas of Java, the evidence indicates a high level of participation by small farmers in the use of HYV's. Thus, in the 1971 dry season, 90 percent of the farmer sample in the village of Nganjat were using the new seeds and in the

¹ William Collier, Use of High Yielding Rice Varieties and Participation in Bimas Programs on Java, Indonesia: Agro-Economic Survey, Research Notes No. 1, January 1972, pp. 4-5.

² William Collier, Size of Rice Field Operation and Adoption of High Yielding Rice Varieties, Indonesia: Agro-Economic Survey, Research Notes No. 2, January 1972, p. 2.

³ Sajogyo, Dilemmas in Modernization Without Development in Rural Java, p. 29.

village of Pluneng, all of the sample farmers were growing the new varieties. It is interesting to note in this regard that in Nganjat peasant farmers were forced by the village leadership to plant the HYV's, and in the following wet season, when force ceased to be exercised, the rate of adoption declined to 57 percent of the total sample.¹

An in-depth case study by Franke in the village of Lestari in Central Java reveals a high incidence of non-participation in the Green Revolution among the small-holding members of the farm population.² The small farmer's frequent lack of response to the HYV's is explained by Franke in terms of his place in the village social structure. Many of these farmers are involved in "idjon kerdja," a practice in which the small farmer can supplement his inadequate income with loans from the wealthier members of the village community. The borrower in turn repays the loan by undertaking labor in the lender's rice fields at wage rates substantially below their market value. In effect, idjon kerdja represents a secure and dependable source of funds for the small farmer, whereas for the lender it constitutes a dependable source of underpriced labor. Based on a condition of debt labor, a dependency relationship evolves between two parties, and there seems to be an implicit understanding that any effort by the small farmer to improve his condition or autonomy by engaging in such activities as the growing of the HYV's, would, in and of itself, constitute sufficient grounds for the lender to terminate his provision of loans. Since in Lestari there are many borrowers and only a few lenders, the former is careful not to give cause for the severing of this

¹ Changes in Rice Farming in Selected Areas of Asia, op. cit., p. 23.

² Richard Franke, The Green Revolution in a Javanese Village, Harvard University: Doctoral Dissertation, 1972.

relationship even though this may be at the price of having to reject a new and profitable technology. The prevalence of idjon kerdja within Java, and the extent to which it influences small farmer reaction to the HYV's, is impossible to ascertain given the paucity of detailed information about village conditions generally. The case of Lestari is a sobering picture of how village stratification can obstruct innovation and dampen entrepreneurial behavior among a select group of its less privileged constituents.

In summary, in terms of farm size there appears to be a wide range of response to the HYV's with most of the data suggesting that large farmers usually participate, whereas small farmers vary in their response to the new technology. It is possible that in the latter plan period, 1972-74, small farmer participation declined as less coercion was exercised in securing peasant acceptance of the HYV's and government banks abandoned the system of distributing credit to groups of farmers, adopting a more stringent procedure of dispensing credit to individual farmers. Records from the government banks indicate that average landholding for Bimas participants is about .75 hectares, a figure which is well above the average farm size for Java. Nevertheless, it would be premature at this time to suggest that the HYV's are entirely beyond the reach of the small farmer. Further research is needed to arrive at definitive answers to this question.

A more complex issue arises when assessing the impact of the HYV's upon employment and wages of hired farm labor. Based upon their analyses of the Agro-Economic Survey data, Collier and Sajogyo conclude that the HYV's increased the use of pre-harvest labor by a margin of 28 percent over local varieties.¹ Ample allowance must be made for the fact that

¹William Collier and Sajogyo, Employment Opportunities Created by the High Yielding Rice Varieties in Several Areas on Java, Indonesia: Agro-Economic Survey, p. 5.

the data are representative of larger farms, and that other studies reveal a less pronounced increase in hired labor input for the HYV's among those owner-operators with smaller farms. In the Klaten study, small farmers tended to rely on family members for the increased labor inputs associated with the cultivation of HYV's.¹ Nevertheless, the adoption of HYV's among larger farmers has brought a sizable increase in employment and this perhaps represents the most tangible achievement of the Green Revolution with respect to enhanced income distribution on Java.

The suggested employment benefits certainly diminish in importance when one goes beyond pre-harvest labor inputs and examines the emerging trends with respect to harvesting practices in areas where the HYV's have taken a firm hold in the village economy. Traditionally, participation in the rice harvest is open to anyone from within and outside the village community. During the harvest season, thousands of landless families will move across the countryside, contributing their labor to the process of harvesting and thereby earning a share of the total yield. Average labor input for harvesting a one-hectare rice field, particularly in the areas with more labor surplus, can range from 500 to 1,000 workers. Since in any one village in Java, 30 to 50 percent of the peasant population is landless, the proceeds from their participation in the harvest, which according to custom range from one-eighth to one-ninth of the total cuttings, constitute an important part of their income. The open harvest method is a practice of long standing in village Java, and reflects a concern that in some areas of economic activity, the welfare of all should take precedence over the pursuit of individual gain. While the market and commerce have long been integral parts of Java's rice economy,

¹Changes in Rice Farming in Selected Areas of Asia, op. cit., p. 37.

its performance, and in practice, peasant harvesters have gradually expanded their informal take of the harvest to one-fifth or one-sixth of the total yield. Landowners have been unsuccessful in resisting this practice because of their inability to properly manage and supervise an increasingly larger number of harvesters. Under these conditions, it is relatively easy for the harvesters to appropriate more of the harvest for their own share, with the landowner suffering a proportionate loss in income. For many landowners, the traditional method of harvesting has ceased to yield benefits equal to its burdens.

Evidence is now accumulating from a number of different sources indicating that the traditional practice of the open harvest is being displaced by a more selective system, whereby participation in the harvest is limited to a smaller number of harvesters, each sometimes using a sickle rather than the traditional "ani-ani" razor for cutting the rice stalks.¹ The new method known as "tebasan" involves the farmer selling his rice before it is harvested to a middleman ("penebas") who in turn organizes his own work gang to undertake the harvesting. In other words, complete responsibility for the harvest is removed from the farmer, and instead the penebas assumes the task of managing and supervising this function, including the cutting and thereafter the storing and ultimate marketing of the rice. The important difference in this new procedure is that the penebas limits the number of laborers who participate in the harvest and frequently employs the sickle in the rice cutting. Thus, in one village, it was observed that a rice crop undergoing

¹William Collier, Soentoro, Gunawan Wiradi, and Makali, Tebasan, Hyus, and Rural Change: An Example in Java, Agro-Economic Survey of Indonesia, November 1973; and Widya Utami and John Ilalauw, "Some Consequences of Small Farm Size," Bulletin of Indonesian Economic Studies, IX: 2, July 1973, pp. 46-56.

the traditional harvest method was employing an average of 480 laborers per hectare, whereas in a nearby plot with the tebasan method, the average was reduced to 21 laborers per hectare.¹ Similarly, where either the landowner or penebas introduces the sickle, the harvest in turn becomes a less labor-intensive operation, as the same amount of work can be done in less time with less labor. Finally, it should be mentioned that scales have been introduced for the weighing of the harvest cuttings in order to provide a more precise measurement in the payment of the appropriate shares to the harvest labor. Formerly, visual inspection was used to establish a rough measure of the total crop cuttings, and harvest labor were able to covertly expand their share in the harvest. The introduction of scales, however, reduces the worker's discretion in determining his share of the harvest.

The landowner's benefits from the use of tebasan are quite sizable. Collier et. al. found that the landowner could reduce his harvest costs by 50 percent if he avoided the traditional practice of the open harvest and instead sold his crop to the penebas.² The reduction in cost simply represents the fact that the penebas uses much less labor in a more supervised fashion to collect the harvest. The social burdens of this system are enormous, however, as tebasan greatly reduces employment opportunities for an already underemployed rural labor force. Several incidents have already been reported where laborers have forcibly resisted the use of tebasan, and its increased adoption could presumably give rise to mounting tension between landowners and the landless within Javanese village society. Current evidence indicates that tebasan is still confined to a limited number of Java's villages. Nevertheless, its

¹Collier, et. al., op. cit., p. 19.

²Ibid., p. 40.

existence casts a dark shadow over Java's future, for its increased adoption would entail an immediate and sharp curtailment in income and employment for the rural poor.

There seems to be a direct relationship between participation in the Green Revolution and the displacement of the traditional harvesting practice by the tebasan system. In their study of four villages in Java, it was noticed by Collier, et. al., that while tebasan had been practiced on a limited scale, its use greatly expanded when farmers started planting the HYV's.¹ In all but one of the four villages, the majority of farmers using the HYV's also sold their rice harvests to a penebas. In interviewing these farmers it was discovered that the preference for tebasan simply reflected the fact that the penebas gave them a higher profit margin and delivered the payment shortly after the harvest. The need for immediate payment seemed important to the farmer as the capital requirements for initiating the next planting had increased with the use of the HYV's.

The relationship between HYV's and tebasan becomes more apparent when seen from the perspective of the penebas himself. When interviewed, the penebas indicates a predominant preference for the HYV's as opposed to other varieties, because the former seeds provide a higher profit margin. According to the penebas, the profit margin is higher because the HYV's provide higher yields. Of equal importance, however, is the fact that with the HYV's, the penebas can estimate with greater accuracy the actual yields prior to harvesting. In buying rice, the penebas must in advance of the harvest negotiate with the farmer a harvest payment based upon their mutual calculation of the expected yield. With the HYV's these calculations are easier to arrive at, for unlike local and national varieties the HYV's seldom lodge.

¹Ibid., pp. 3-7.

To summarize, at the beginning of this monograph we noted that many scholarly writings on Java were pessimistic in tone concerning the possibilities of technological change in agriculture. The tebasan case constitutes a dramatic example of farmers abandoning old cultural modes in preference for more profitable methods of production. Concerning the Green Revolution itself, however, the evidence is less dramatic, though it is sufficiently convincing to suggest that given the proper incentives, peasants will respond positively to new innovations. While there has not been a landslide adoption of the HYV's, this reflects less upon the entrepreneurial inclinations of the peasant himself than it does upon the nature of the new technology and upon the institutions engaged in its diffusion. In competition with yields from local varieties, the HYV's have at times failed to demonstrate their superiority. Under some conditions, of course, local varieties are high performers, but it is frequently the case that the full potential of the HYV's is not being exploited. This is due in large part to the inadequate capacity of local institutions to provide timely and effective support of those peasants using the new technology. Thus, extension, credit, irrigation, marketing and numerous other services constitute the basic and requisite components for not only increasing peasant adoption of the new technology but also in maximizing the yields from the HYV's. The initial efforts of the first five-year plan were essentially focused upon the logistics of distributing fertilizer, seeds and pesticides, and it was only later in the plan implementation that recognition was given to the need for building up local-level institutions to perform the full range of services requisite for agricultural modernization. It was recognized that greater attention would have to be devoted to reaching the smaller producers of the farm population, making available to them farm inputs, and also making certain that they received a profitable return in the

marketing of their rice. A special organizational innovation by the government in an attempt to foster the spread of benefits from the new technology is examined in the final section.

VI. The Green Revolution and Beyond: The Quest for a New Institutional Formula

In the early 1970's an experimental project was conducted in the special district of Yogyakarta in central Java, whereby a new institutional device, the BUUD, was introduced to improve local level administrative performance in the implementation of the government's rice program. Existing village cooperatives, many of them either dormant or only marginally active, were encouraged by the local government to pool their resources in the form of a federation. Each of these federations was identified as a BUUD, comprising an area roughly equivalent to the size of a sub-district (25,000 to 35,000 inhabitants). The BUUD was to have a Board of Directors, usually consisting of delegates from each of the member cooperatives, a director--supposedly elected by the Board, and finally a manager, who could either be appointed from within the BUUD membership or hired from the outside.

While initially the BUUD's assumed a limited number of tasks, it was intended that they would eventually flourish into full-fledged multi-purpose cooperatives, with the constituent village cooperatives amalgamating into one corporate body at the sub-district level. Within this area, they would engage in the provision of agricultural inputs, the dispensation of credit and extension information, and finally undertake activities relating to the processing and marketing of a wide range of agricultural crops. It was also thought that in the more distant future the BUUD's could engage in the development of cottage industries and in the introduction of poultry and livestock production. In brief, this organization could gradually become one of the

primary instruments for implementing government development projects at the village level and for mobilizing peasant support behind these efforts.¹

The initial BUUD experiment in the Yogyakarta region immediately caught the attention of the central government, and an effort was initiated in mid-1972 to introduce these organizations selectively in other parts of Java. Initially this task was undertaken with caution, and only a small number of BUUD's were introduced in any one district. There seemed to be some recognition of the fact that these organizations would fail to perform their developmental role if introduced too rapidly and in too great a number. This more deliberate approach in establishing the BUUD's was soon abandoned, however, in the rush of events which transpired in the late months of 1972. In December 1972, the government was caught totally unprepared by a sudden soaring of rice prices. In less than a month, rice prices rose by a margin of over 100 percent, and food shortages were reported in a number of places on Java.² Possible shortages in rice were signalled in the previous August when prices began to rise by a margin higher than usually occurs at this time of the year. Authorities were slow in reacting to this condition, however, and the government purchasing agency did not move with any sense of urgency in securing contracts for commercial imports. Thus, the bulk of the government's orders were not due to arrive until the following February and March. In December, a crash program was undertaken to import additional rice, and in Djakarta,

¹Soedarsono Hadisapoetro, Kelengkapan Wilayah Unit Desa Masalah dan Prospektu, Departemen Ekonomi Pertanian, Fakultas Pertanian, University of Gadjah Madah, 1973.

²H.W. Arndt, "Survey of Recent Developments," Bulletin of Indonesian Economic Studies, IX: 2, July 1973, p. 3

the market was literally maintained by day-to-day deliveries rushed from ships arriving in the Djakarta Harbor. By January, the government had succeeded in holding the line on rice prices, but they remained at a level 80 percent higher than in the previous August.¹ Rice accounts for 30 percent of the total price index, but similar price rises were reflected in other basic commodities.

From December on into 1973, policy making was dominated by a concern for weathering the rice shortage and containing the attendant inflationary pressures generated within the larger economy. Minister Widjojo, head of the Central Planning Board, shifted his attention away from the preparation of the next five-year plan and concentrated on supervising the government import program. Government officials usually ascribed the production failure as an outgrowth of unfavorable weather, i.e., the long dry season of 1972. Bulog, the government's rice purchasing agency, came under fire for failing to have adequate stocks available to compensate for the production shortfall.

The rice crisis only served to stiffen further the government's resolve in undertaking measures to increase the supply of rice, particularly from domestic sources, and to organize the rice economy in a manner more consistent with national interests. Thus authorities at all levels seemed to move with greater conviction in preparing for the impending wet season harvest (April-June 1973) in order to assure that a larger portion of the rice harvest could be moved into the public sector to resupply the government's buffer stock. In this context, the value of the BUUD as a potential instrument of government policy was quickly

¹Stephen Grenville, "Survey of Recent Developments," Bulletin of Indonesian Economic Studies, IX: 1, March 1973, p. 1.

brought into prominence, as it was decided to use this organization as the primary agent for government rice purchases at the village level. In the initial Yogyakarta experiment it was assumed that the BUUD's would engage in rice purchasing for the government in order to assure that the farmer received at least the guaranteed floor prices at harvest time. The BUUD's were to buy rice for the government at this price when the farm-level price fell to, or below, the floor. In theory, therefore, the involvement of the BUUD's in government purchasing seemed to serve both the interests of the government and the farmer; in practice, however, this arrangement fell far short of its objective.

In practice during 1973, this involvement turned out to be a disaster for the BUUD's. As it had done every year before, Bulog set a target for total domestic purchases, and it pegged the floor price according to market conditions of the previous year. The conditions were of course wildly different from those of 1972, especially with the world market price for rice on the rise. Thus the price paid to farmers for government-procured rice was often less than what they could get even at harvest time in the open market.

The government officialdom, aware that the government was intent upon replenishing its rice stocks, bore down upon the farmer to collect its share of the harvest.¹ In effect, government purchases became less a matter of guaranteeing a floor price and rather responded to administrative pressures for achieving the Bulog procurement target. Provincial governors set up targets for the districts to achieve, and the districts in turn divided their quotas up among the sub-districts and villages. In East Java, the governor was quite ambitious in this regard, actually increasing the target given to him by Bulog. In this province, local officials were under

¹Peter McCawley, "Survey of Recent Developments," Bulletin of Indonesian Economic Studies, IX: 3, November 1973, pp. 1-8.

a great deal of pressure to achieve their quotas. In other areas as well, however, many local officials themselves perceived the situation as one where their superiors expected them to reach a particular target. There was thus a natural inclination to expand rapidly the number of BUUD's, as these organizations were seen as the primary instruments for purchasing government rice. By early 1973, the number of BUUD's had greatly increased with practically every subdistrict having its own unit. These BUUD's were frequently paper organizations, headed by a hastily recruited local official or farmer. Nevertheless, when the harvest came in April and May, the BUUD's were prepared to purchase their quota of rice.

It was in its effort to purchase the government rice that the BUUD's collided head on with a peasantry intent upon selling its rice at a price and time consistent with their own interests. The BUUD was put in the double bind of being expected to collect a quota at the floor price, when in effect, the market price remained above the floor. Thus, procuring rice, which would have been an automatic and reasonably voluntary process set in motion when market prices fell below the floor, now became a matter subject to administrative regulation. Local officials forced farmers to turn over a portion of their rice at a price equal to the floor but below its current market value. Other BUUD's, refraining from the use of coercion, purchased rice at the higher market value, forwarded it on to Bulog for the lower price, thereby absorbing the difference at a substantial loss to themselves. In addition to these measures, regional and local authorities frequently imposed restrictions on the movement of rice outside their jurisdictions in order to facilitate the government's purchasing program. Thus, in early June, major disparities appeared in urban and rural rice prices, as private rice merchants were less able to circumvent local and regional trade barriers. In early July,

the central government set about removing these restrictions. The use of the BUUD's in the government's program contributed to a rising mood of peasant discontent, and in August, the BUUD's were ordered to cease the purchasing of all rice, whether for the buffer stock or for private trade.

In many respects, the above episode constituted a repetition of the 1959-61 Padi Centre Program where short-range exigencies assumed priority at the cost of long-range efforts in institution building. In its debut as a nationwide movement to assist the peasant, the BUUD had suffered a serious setback, and it now faces a long uphill battle in restoring its image as an organization intent upon improving peasant welfare. This effort will be further constrained by the fact that the number of BUUD's has greatly multiplied, thereby increasing the danger that government effort will be dissipated in its attempts to strengthen them. Instead of having a few good BUUD's, there may be a great many poor ones. Indeed, there seem to be some ominous signs pointing in this direction, as the government appears intent upon rapidly expanding their role in the rural sector. Most notable in this regard is the widespread distribution of rice hullers to the BUUD's. By early 1974, nearly 700 BUUD's had been authorized to secure medium-term credit from the government banks for the acquisition of rice hullers, and it was anticipated that another 500 would engage in such an arrangement. It is not clear that all of the BUUD's are prepared to undertake adequately the management of the hullers. This problem is further compounded by excess milling capacity in some areas of Java, where in effect, there is likely to be some stiff competition between the BUUD's and the private millers in the processing of rice.

The problem of competition with the private millers is similarly encountered in the area of rice marketing. In many areas of Java, rice trading is a highly labor-intensive

operation involving a large number of small middlemen, who are able to secure a meager livelihood in the petty buying and selling of rice. If the BUUD's were to streamline this process, they would substantially reduce employment opportunities for a large number of people, just as the increased use of hullers has substantially reduced employment in the processing of rice by hand pounding. The capacity of the BUUD's to engage in rice marketing is further made problematic by the fact that the private trader is frequently at a distinct advantage in making available to the farmer an immediate cash payment for his rice, whereas BUUD payments are sometimes subject to administrative delay in securing capital from the government banks. Finally, for the peasant, the rice trader is frequently a source of needed cash in case of emergency, and his willingness to sell to the BUUD may, in effect, jeopardize a reliable, informal source of credit. In brief, rice trading is a sophisticated undertaking involving a large number of transactions and reciprocities between individuals which extend beyond mere economic and commercial values. The BUUD's will face the delicate problem of trying to participate in rice trading in a manner which yields profits, but not the ill will of the surrounding environment.

In the fall of 1973, the BUUD's were given a monopoly over the distribution of subsidized fertilizer. Given the increasing scarcity of fertilizer on the world market, domestic supplies of fertilizer have dwindled and, in effect, the BUUD's have almost exclusive control over high nitrogen fertilizer. Subsidized fertilizer is supposed to be used exclusively in the government's rice program. Yet, the free market price of fertilizer is double its subsidized price, and the profit margins for the BUUD's in retailing subsidized fertilizer is quite small. Thus, the government faces a major policing problem in that BUUD retailers and farmers will be tempted to siphon fertilizer to

the free market.

It is still too early to know if the BUUD's will evolve into an important institutional source of economic development in the rural sector. The most tangible measure of success will be whether they develop into profit-making ventures, capable of sustaining their own economic viability independent of government subsidies and credit. An initial examination of this problem is available in a preliminary survey of the original BUUD's in the Yogyakarta region.¹ The study included all 35 BUUD's in the area and was conducted in 1972, one year after their creation. From this number, 13 of the BUUD's had developed into rather sizable operations in that they each had a rice huller and were involved in significant cash transactions. The other 22 BUUD's did not have rice hullers and had marginal cash turnovers. All of the large BUUD's were involved in rice processing, the provision of spraying services, rice trading and the retailing of fertilizer, whereas, the other 22 were primarily engaged in fertilizer retailing and the provision of spraying services. Given their lack of rice hullers, they were not involved in processing, and were only marginally engaged in rice marketing.

In examining their financial condition after one year of operation it was found that all of the BUUD's were operating at a loss; their expenses exceeded their income. Thus, for the larger BUUD's, the losses were substantial, with total income accounting for only 1/3 to 2/3 of total expenses. It should be noted in this regard that their major expense consisted of the monthly installment payment for the rice huller, an amount which ranged from 40 percent to 50 percent of total expenses. For the smaller BUUD's, the majority

¹Soedarsono Hadisapoetro, Suprpto Gunawan, and Djuwari, Laporan Sementara Masalah Badan Unit Usaha Unit Desa di Daerah Istimewa Yogyakarta, Yogyakarta: Fakultas Pertanian, University of Gadjah Madah, 1973.

of the number in Yogyakarta, their financial condition was even more adverse, with total income ranging from only 4 percent to 25 percent of total expenses. For the large BUUD's, their major source of income was derived from rice processing, a figure ranging from 56 percent to 91 percent of total earnings, and rice trading, an activity accounting for 19 percent to 32 percent of these. Only marginal income was obtained by these BUUD's from the distribution of fertilizer and pesticides. For the small BUUD's, fertilizer retailing accounted for 55 percent to 90 percent of their total income, whereas the other services, spraying and rice marketing, constituted only marginal sources. In summary, in their first year of operation, a majority of the BUUD's in the Yogyakarta region had yet to demonstrate their capacity to maintain viable and solvent operations. The survey notes that many of the BUUD chairmen provide their services on only a part-time basis and concludes that major improvements in management skills are urgently needed to further strengthen the BUUD organization.

At the moment, the future of the BUUD in rural Java, and its capacity for enhancing productivity, remains an open question. The more immediate threat is that the government will again press the BUUD into service for the purchasing of government rice, re-enacting again the drama of civil servants attempting to extract rice from an unyielding peasantry. Current indications suggest that this will probably not occur, at least not on a scale which characterized the 1973 wet season harvest. For the impending 1974 wet season harvest, the government purchasing agency has lowered its target for domestic buying of rice by a margin of 50 percent. Likewise, some effort has been expended in impressing upon regional authorities that coercive measures should not be exercised in the purchasing of rice.

The more relaxed approach in domestic purchasing represents a basic shift in government policy and a retreat from achieving self-sufficiency by 1974. This change augurs

well for Java, as the government appears to be easing its pressure upon the peasant and rather adopting a more long-term view of the problem. This change in posture is occasioned by two new developments. First the government is attempting to encourage foreign and domestic investors to undertake the development of rice estates in the outer islands. During the past year several foreign firms have indicated an interest in developing large-scale, mechanized rice farms in Sulawesi and Sumatra. The large investments required for infrastructure development there (irrigation, roads and transport) still constitute a major obstacle in bringing these negotiations to fruition. The second development is Indonesia's burgeoning influx of revenue from the sale of oil, an activity which in 1974 will probably generate more than four billion dollars in foreign exchange. This new-found affluence has inclined the government to take a more permissive approach in the purchasing of rice from the world market, and current estimates indicate that 1.3 million tons will be imported in 1974. Thus, Indonesian oil has in some measure lifted the pressure upon the peasant and rural official alike for achieving an overnight success in rural development.

The position of the BUUD still remains tenuous, however, as available supplies of rice in the world market have dwindled in the past two years, and at any time the government could resume its policy of using the BUUD to obtain rice from domestic sources. This would again bring forth a basic issue concerning the role of the BUUD and the interests it is supposed to represent. Presumably, the BUUD has been set up to serve peasant needs and in time secure its basic support and sustenance from within village society itself. Nevertheless, in the past it has been compelled to serve government interests, which in content have frequently been in opposition to peasant interests, and a further repetition of such instances will only serve to reinforce an already

well-founded suspicion that the BUUD is an instrument for bureaucratic intervention rather than a device for fulfilling peasant needs. The critical test in the next few years will be whether the BUUD can develop its own autonomy and identity independent of government structures.

Finally, lurking in the background is the ever-present danger that the government will move too fast with the BUUD's, rapidly burdening them with a multitude of tasks and programs which they are unprepared to perform effectively. The second five-year plan will begin in April 1974, and this will entail the launching of some major programs in agricultural diversification. This is a welcome change from the past when the government was concentrating all its resources in rice production and neglecting equal if not more productive investments in the rural sector. It can now be expected that programs will be undertaken to expand the productivity of a variety of commercial crops in the small-holding sector. Likewise, activities will be underway in the development of cottage industries and in the expansion of livestock and poultry production. It appears that the BUUD's will be called upon to assist in the development of these projects, tasks which could be both a blessing and a bane in the development of these organizations. On the one hand, the BUUD's would greatly benefit from a diversification of these activities beyond a mere concern with increasing rice production. Nevertheless, the BUUD's have yet to acquire the management and entrepreneurial resources necessary to undertake such projects, and greater attention will need to be focused upon upgrading their skills in these areas. The implementation of these programs will be an arduous and time-consuming endeavor, requiring a long-term perspective wherein gains are measured in terms of incremental achievements. A long-term perspective has not been a feature of policy formulation and execution in Indonesia and it will be no less difficult to sustain in the future. The historical landscape

is littered with the wreckage of well-conceived, but improperly and hastily administered projects. In the past 25 years, short-term needs have taken prominence over long-term investments, and the pressures to accelerate the process of rural development will be no less and perhaps even more salient than they were before. One can hopefully assume, however, that Indonesia has an open future and that projects like the BUUD will in their fruition constitute a welcome break with the past.

Peasant and Bullock by Chuah Theah Teng
From the collection of Dr. and Mrs. Clifton R. Wharton, Jr.