

THE AGRO-ECONOMIC SURVEY OF  
INDONESIA: AN APPRECIATION

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Ten years ago the number of agricultural economists in Indonesia could be counted on the fingers of one hand, and there is still no Bureau of Agricultural Economics in the Indonesian government. Yet more than half of Indonesia's national production and exports originate in the agricultural sector, and more than two-thirds of its population earn their living in agriculture. It has long been realized, however, that no worthwhile economic development is possible unless satisfactory agricultural policies can be devised to cope with the problems of food shortages, marketing, land tenure and many more.

In the pre-1966 period, the policies adopted to solve the problems of agriculture, like those in the general economic field, were as often as not unsuccessful. However, there had been a growing realization that research was a necessary prerequisite to the formulation of agricultural policies that would work, and, by 1963, first attempts had been made to establish a research organization to study the socio-economic problems of agriculture. It is not surprising that this approach had been suggested because Indonesia has long had a tradition of honoring men with trained minds.

In the event, an *ad hoc* research organization, the Agro-Economic Survey of Indonesia, was able to start work in 1966. All its staff were part timers, men whose "full time" jobs were at various universities. They spent from one-quarter to one-half of their time undertaking research projects commissioned by various government agencies. The men who did the research work were also for the most part inexperienced.

This article summarizes and interprets the results of the first five survey reports published in final form by the Agro-Economic Survey. It will be clear from what follows that these relatively inexperienced (their average age is 32 years), part time research workers have written reports which illuminate a wide range of problems facing the development of Indonesian agriculture.<sup>1</sup>

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1. The five reports on which this article is based are: Mubyarto, et. al., Usahatani Tebu dan Industri Gula di Jawa (Bogor: S.A.E.I., 1968); Irlan Soejono, Program "Bimas" Sebagai Pendorong Modernisasi Usahatani (Bogor: S.A.E.I., 1968); Wirjadi Prawirodihardjo, Peranan Ekonomi Perusahaan-Perusahaan Pengolah Padi di Jawa Khususnya Didua Kabupaten di Jawa Barat (Bogor: S.A.E.I., 1968); R. S. Sinaga and Faisal Kasryno, Pengusahaan dan Tataniaga Karet Rakjat di Sumatera Selatan dan Kalimantan Selatan (Bogor: S.A.E.I., 1968); and Moeljono Partosoedarso and Amris Makmur, Tata Produksi dan Niaga Kopi di Indonesia (Bogor: S.A.E.I., 1968). These reports are the first in a series entitled Laporan issued by the Survey Agro-Ekonomi.

The Agro-Economic Survey: Some General Information<sup>2</sup>

In a general introduction to the reports, Professor Sajogyo,<sup>3</sup> Chairman of the Working Body of the Survey since its inception, writes that in the first two and one-half years, fifteen field studies and two other studies have been undertaken.<sup>4</sup> He also reports that the total cost of these seventeen studies has been only Rp.5.3 million (U.S. \$40,000) at most.<sup>5</sup> It is always difficult for economists and other social scientists to know whether the research work they do is worth what it costs, but in the report on smallholder rubber, for example, the authors show how Indonesia's national income could have been increased by some \$150 million a year through an almost costless change in patterns of resource use. Elsewhere in this report, and in the others, there are many other hints and suggestions about how Indonesia's scarce economic resources can be better employed.

All the studies were undertaken at the request of various government agencies and at their expense, and it may be assumed that the most interested readers in each case were the officials of these agencies. In his introduction, Professor Sajogyo stresses that information obtained through these field studies is intended primarily to supplement what the government already receives from such sources as the Central Statistical Bureau, National Sample Surveys and regular Departmental Reports. The field studies, then, represent a major research effort with the rather limited goal of getting detailed information on specific and well-defined problems. In all cases, the first aim of each study was to collect the information needed to test hypotheses relating to particular socio-economic problems in the agricultural field. The special strength of the approach adopted is the conviction that the most useful supplementary information is that collected directly from the primary actors in economic life--farmers, local officials, mill managers and traders. The validity and usefulness of this approach should become amply clear from what follows.<sup>6</sup>

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2. For further details on the organization of the Survey, see the article by E. de Vries, "The Agro-Economic Survey of Indonesia," Bulletin of Indonesian Economic Studies, 5, No. 1 (1969), pp. 73-77.
  3. Until 1969, Sajogyo was known as Kampto Utomo.
  4. The publication date given on the five reports discussed here is November 1968, but, in fact, the reports came out at irregular intervals during 1969. Copies may be obtained from the Agro-Economic Survey, Dj1. Merdeka 99, Bogor, Indonesia. It is also planned to publish English language versions of the reports.
  5. The exchange rate varied over the period from about Rp. 100 - \$1 to about Rp. 300 - \$1.
  6. Most of the field studies used the same research design. Professor Sajogyo has generalized the design and discussed its theoretical implications in "Penelitian Ilmu-Ilmu Kemasjarakatan dan Aplikasinja" (typescript, to be published as part of a book edited by Koentjaraningrat on social science research), pp. 22-25.

In his foreword to the series, Minister of Agriculture Dr. Tojib Hadiwidjaja notes that the major economic problems faced by Indonesia are low per capita income, high man-land ratios (in Java in particular) and inflation. He notes also that the manifold problem of agricultural development cannot be solved without taking into account fully the great socio-economic diversity found in the rural areas. He stresses that every attempt should be made to ensure that Indonesia's very scarce economic resources are used as economically as possible.

It is, of course, impossible that these five reports can provide the answers to all, or even most, of the problems mentioned by Minister Tojib. But, when they are viewed as a whole, it is clear that this inexpensive, but well-executed research effort has provided invaluable information on many questions: how the Indonesian economy has operated since independence; the scope for development; how government policies have affected economic activity; and why economic policies have taken the unproductive form they have.

#### The Environment for Economic Decision Making

Taken together, the reports provide a good picture of how the Indonesian economy has operated in the period from before World War II to about 1967. They also show a large number of the problems that need to be tackled by the government before farmers, traders and other decision makers in the economic field can be expected to act in a way conducive to sustained economic development.<sup>7</sup>

An important problem in the Indonesian economy is that of regional and other discrepancies. As of October 1967, for example, a coffee farmer in East Java received a price equal to 60 percent of the New York price, while a coffee grower in South Sumatra received only 38 percent.<sup>8</sup> The interregional discrepancies for smallholder rubber are even more marked: in South Kalimantan a grower received 39 percent of the port price, while in South Sumatra he received only 19 percent.<sup>9</sup> At the same time, the price of rice in South Kalimantan was Rp. 3.8 per kg.; whereas it was Rp. 21 in South Sumatra.<sup>10</sup> Thus, rubber tappers, and rubber smallholders who

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7. De Vries reports that a number of policy changes have been made, wholly or in part, as a result of the field studies undertaken by the Agro-Economic Survey, but most of these changes have come after the reports were first written, in 1967 and 1968. It is also clear that many of the policy changes recommended or implied have yet to be made. De Vries, "Agro-Economic Survey."

8. Partosoedarso, Tata Produksi dan Niaga Kopi, p. 126.

9. Sinaga, Pengusahaan Karet Rakjat, p. 49. The port price is the price at the point of export, for example, the dollar price ruling at Bandjarmasin (South Kalimantan) and Palembang (South Sumatra).

10. Ibid., p. 35.

did their own tapping, had to work ten times as hard in South Sumatra to earn a given level of real income, measured in terms of rice.

Rice and fertilizer prices in six villages in West Java were recorded in the study by Soejono on the Bimas program. The price of urea per kg. varied from Rp. 8 to Rp. 18; and the rice price per kg. varied from Rp. 6 to Rp. 12.50.<sup>11</sup>

In the rice milling industry five very different techniques co-exist. These processes differ in technical efficiency, from some 70 kg. *padi* (unmilled rice) per man per hour to 10,000 kg. of *padi* per hour, and they also differ considerably one from the other in processing costs.<sup>12</sup>

In the sugar industry four "rental" systems were in use at the same time. The most favorable for the farmers gave them an income equivalent of 5 tons of milled rice per hectare, some 50 percent more than they would have obtained had they planted rice and other food crops, while the worst gave them an income of only 1.8 tons of rice.<sup>13</sup> The farmers in the sugar growing areas were also at times able to choose between selling the sugar they received in part payment for the use of their land on the free market at Rp. 15 per kg. or to the mills at the fixed government price of Rp. 4.65 per kg.<sup>14</sup>

Another problem experienced by the farmer is price instability. The rubber-rice price ratio faced by rubber smallholders ranged from 0.5 to 2 in the period from 1953 to 1966 (three year averages).<sup>15</sup> The same sorts of instabilities were faced by coffee growers, for, whereas one kilogram of coffee would usually buy 3-4 kilograms of rice, it was enough to buy only one kilogram of rice at the end of 1967.<sup>16</sup>

The farmers in the sugar areas who rented land to the mills under the then dominant cash rent system received rents that varied greatly from year to year. According to the formula, however, they were supposed to get the same amount in rice terms each year. In the period 1959 to 1963 the small landowners (average size of parcel was 0.3 hectare) received from a high of 29 percent of the rent calculated according to the rental formula to a low of but 10 percent.<sup>17</sup>

11. Soejono, Program "Bimas," p. 100.

12. Prawirodihardjo, Perusahaan Pengolah Padi, p. 122.

13. Mubyarto, et. al., Usahatani Tebu, p. 48. The other two rental systems would have provided incomes of 2.8 and 2.4 tons respectively, i.e., below what they could have earned from planting their land in rice.

14. Ibid., p. 147.

15. Sinaga, Pengusahaan Karet Rakjat, p. 32. During the same period the rubber-rice price ratio on the Djakarta wholesale market never went below 1.9, and in one year was as high as 5.3. In the Singapore market the lowest figure recorded in the same period was 3.1.

16. Partosoedarso, Tata Produksi dan Niaga Kopi, p. 125.

17. Mubyarto, et. al., Usahatani Tebu, p. 8.

Together with these more specific problems, the nation suffered a general economic decline. The number of operating rice mills in the country as a whole fell from 1,137 in 1940 to 880 in 1954 and to 758 in 1967.<sup>18</sup> In South Sumatra, the number of rubber smokehouses fell from about a thousand in the pre-war period to 125 in 1958 and to 8 in 1963.<sup>19</sup> The number of sugar mills also declined, from the pre-war 178 to 55 in 1967.<sup>20</sup>

The yield of "estate" sugar likewise declined, from 17.3 tons (crystal) per hectare in 1935, to 9.8 tons (1954-1966) and to 7.6 tons per hectare in the five year period 1962-1966.<sup>21</sup> This decline was accompanied by a decline in the quality of the land farmers were willing to rent to the sugar factories, and to a decline in their willingness to transfer the land-use rights at the time most suitable to the mills.<sup>22</sup>

In the rice and rubber processing industries, however, the decline in productive capacity in the form of rice mills and rubber smokehouses was more than matched by an increase in the number of rice hullers and rubber remilling facilities. There had been no hullers on Java before the war, but there are now many thousands; meanwhile, the number of "remillings" in South Sumatra rose from 7 in 1941 to 15 in 1958 and to 33 in 1963.<sup>23</sup> Both hullers and "remillings" are much less economically efficient than the facilities they replaced, and the increases recorded here must also be regarded as further evidence of a decline in the efficiency of resource use.<sup>24</sup>

The reports also indicate the continued seriousness of the problem of over-population on Java. For example, 60 percent of the farmers who rented land to the sugar factories indicated that they had no alternative employment opportunities during the sixteen months the land was in cane.<sup>25</sup> In the report on rice processing it was stressed that the highly inefficient method of hand-pounding (it is inefficient both technically and economically) should be retained as this is the only way that many people can make a living.<sup>26</sup> It may

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18. Prawirodihardjo, Perusahaan Pengolah Padi, p. 145.

19. Sinaga, Pengusahaan Karet Rakjat, p. 58.

20. Mubyarto, et. al., Usahatani Tebu, p. 15. Very few new mills indeed were built for either rice or sugar after independence, and the decline in the number of operating mills is a good indicator of the decline in processing capacity.

21. Ibid., p. 14.

22. Ibid., p. 13.

23. Sinaga, Pengusahaan Karet Rakjat, p. 58.

24. Rice hullers can, without much difficulty, be converted into small rice mills.

25. Mubyarto, et. al., Usahatani Tebu, p. 42.

26. Prawirodihardjo, Perusahaan Pengolah Padi, p. 127.

well be assumed that this problem is even worse now than it was before the war.

Evidence of yet other problems the peasants have to contend with comes from the rubber study. For example, despite the very low rubber-rice price ratio prevailing at the time the study was done, some 80 percent of the growers interviewed in South Sumatra received prices for their rubber that were from 8 to 24 percent lower again because they were in debt.<sup>27</sup> This report also shows that the smallholders who depend to the greatest extent on rubber for their income have done the least new planting.<sup>28</sup> The most serious problem they face, however, is the very small proportion of the port price that they receive, not more than 20 percent in the period April 1966 to August 1967.<sup>29</sup>

The reports show again and again that farmers and other producers (including processors) are compelled to operate in a difficult and uncertain economic environment. It is therefore not surprising that the overall picture is one of economic deterioration. There are, however, a few bright spots. Farmers have continued to grow more rice even though domestic prices have generally been much lower than those that have ruled on the world market, and, in the export industries like rubber and coffee, the capacity to produce has continued to increase despite the very unfavorable exchange rate policy. Indeed, in the period 1960 to 1966 the rate of planting of coffee was over 7 percent per year in Lampung, and almost 6 percent a year in South Sumatra.<sup>30</sup> For rubber, harder hit in terms of prices, the rates of increase were much lower, but still positive: 1.1 percent in South Sumatra and 1.6 percent in South Kalimantan.<sup>31</sup> There is no doubt that these rates of increase would have been much higher in all cases had prices been more favorable. It is also clear that even though the prices received by farmers were very low compared with the prices of the goods they bought, thus reducing incentives to increase production, farmers were nonetheless still responsive to the price mechanism, in particular to price differentials (e.g., rice to sugar and rice to rubber).

### Development Potentials

The willingness of farmers to respond to economic incentives, when they are provided, is probably the single most important basis for optimism about the future. The reports also list an encouragingly wide range of development opportunities, that is, of new and more profitable ways of using given resources. To make use of them a re-arrangement of present resource-use patterns would be required but

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27. Sinaga, Pengusahaan Karet Rakjat, p. 37.

28. Ibid., p. 36.

29. Ibid., p. 53.

30. Partosoedarso, Tata Produksi dan Niaga Kopi, p. 108.

31. Sinaga, Pengusahaan Karet Rakjat, p. 29.

in no case would any great infusion of capital be necessary.

In the report on the sugar industry, it was shown that, despite the drastic decline in yields per hectare and all the other inefficiencies of the industry, the industry was nonetheless still able to produce sugar at a price below the then low price prevailing on the "free market."<sup>32</sup> The report also makes a convincing case that, by paying higher rents and by using modern growing methods, the industry could become much more profitable than it has been in recent years.<sup>33</sup> As Dr. Mubyarto has shown in his recent article on the sugar industry, there is plenty of money in the industry to pay the rents needed to get good quality land.<sup>34</sup>

Agricultural extension (Bimas-type) projects can give very high returns if well done. Although the author of the Bimas report does not make any benefit-cost calculations, it can be assumed that benefit-cost ratios of 4 and more can be attained if the original principles of the scheme are adhered to.<sup>35</sup>

The most clearly defined set of development opportunities is given in the report on rubber production and marketing. One such opportunity has already been mentioned, namely the gains that could be obtained from planting selected rather than unselected seeds. The authors estimate that, if such seeds (which are easy to produce and extremely cheap) had been made available to farmers, Indonesia's exports would have risen by at least \$150 million a year by the end of the period 1950-1967.<sup>36</sup> For many decades all the new planting and replanting done by the rubber estates has been done with selected and high-yielding seeds; in the smallholder sector all that is required is increased efficiency on the part of organizations whose task it is to serve the rubber smallholders.<sup>37</sup>

Other development opportunities include the use of stimulants, a method of increasing latex flow that has been fully proven since

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32. Mubyarto, et. al., Usahatani Tebu, p. 87. The rate of exchange used to make this calculation was the BE rate, and the rupiah is overvalued at this rate.

33. Ibid., p. 101.

34. Mubyarto, "The Sugar Industry," Bulletin of Indonesian Economic Studies, 5, No. 2 (1969).

35. "Penjuluh dan Petani" (Medan: Departemen Sosial-Ekonomi, Fakultas Pertanian, Universitas Sumatera Utara, forthcoming). In this study, benefit-cost calculations were made for six extension projects among which there were two that could be described as having been run according to the "original principles" of Bimas. In both cases a benefit-cost ratio of about 4 was found.

36. Sinaga, Pengusahaan Karet Rakjat, p. 28.

37. The authors report that selected planting materials were continuously in short supply, and that even these meagre supplies were so poorly handled that germination rates averaged no more than 11 percent. Ibid., p. 39.

1955 and which gives a three-fold return on cost,<sup>38</sup> and also the increased returns that could be gained by returning to the production of higher grades of rubber.<sup>39</sup> The first development opportunity mentioned (stimulants) requires little capital and would be exploited quickly by the farmers if the materials were available locally, while a marked improvement in quality would soon occur once there had been a change in the "check price" system. As things stand, the domestic prices for rubber, unlike the world prices, do not reflect the costs of producing the higher grades, because, when the dollar prices for various grades of rubber are converted into rupiah at the going, and highly unfavorable, exchange rate, the rupiah returns from the sale of the higher grades are no longer enough to cover the costs of producing them. There is thus an economic incentive to produce low-quality and low-value rubber.<sup>40</sup>

It is also clear that farmers would plant, and produce, much more rubber if the rubber-rice price ratios were more favorable; such an improvement would occur in most regions merely after a change in exchange rate policy.<sup>41</sup> The report indicates, too, that the rate of profit on investment in extension activities would be greater for rubber than it is for rice.<sup>42</sup>

The development opportunities in the processing sector of the rice industry are no doubt fewer than they are in the rubber industry, but the author shows that rice to the value of some \$17 million could be saved each year if the technically more efficient rice mills were free of the restrictions they now face. At the time the study was done, only some 25 percent of the reduced processing capacity, in the

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38. Ibid., p. 25.

39. Ibid., p. 57.

40. The world prices for various grades of rubber reflect the differential costs of producing rubber of high or low quality. Under the "check price" system--a rather complicated arrangement that permitted exporters to sell the bulk of the foreign exchange proceeds only at the (low) official rate and the balance, the "overprice" at a higher rate--the rupiah an exporter could obtain from the sale of high quality rubber were not enough to cover the processing costs. When the check prices were set they were usually in proportion to the world prices for each grade, but when the conversion into rupiah, at the prevailing (low) exchange rates, took place, the local currency proceeds were not enough to cover the costs of producing high-quality rubber. The check price system was abolished in 1970.

41. The rupiah was devalued in 1970, and exports are now, for the first time since independence, able to be sold at the most favorable current rate of exchange. Ibid., p. 34.

42. From independence to the present day, the vast majority of the resources devoted to agricultural programs has been used to increase rice production; whereas, there is strong evidence that the rate of return would be much higher if some, at least, of the men and money had been diverted to rubber, coconut, corn, etc., programs.



form of rice mills, was in use.<sup>43</sup>

For coffee, the situation is similar. No clear-cut quality grades have been established to guide growers and processors,<sup>44</sup> and there have been no changes in production practices since 1930.<sup>45</sup> As with rubber, better prices and an extension program would lead to a good response from farmers.<sup>46</sup>

All the development opportunities listed here, and many of the others that are not, have been available for ten, twenty or more years. The reason why they have not been used, or have been used on such a small scale, is that the economic environment has been consistently unfavorable to innovation and to making best use of given resources.

### Continuities in Economic Policy

Product markets are always unstable, and the profitability of given techniques or given products inevitably changes over time. But the climate for innovation and greater productivity has been unfavorable for so long that it is not possible to ascribe Indonesia's poor economic performance in the agricultural field to the influence of factors such as these. The explanation must instead be sought in the field of domestic policy making.

The reports give many indications that defective or misguided policies are the prime cause of the economic deterioration. Just why this should be so is an important, indeed a fascinating question, and one upon which the five reports throw a great deal of light. But it is also a complex question, and, in this section, attention will be given only to one aspect of the problem.

Three of the reports (on sugar, rubber and rice milling) stress the fact that the economic policies of independent Indonesia appear to be direct descendants of the policies pursued by the Dutch colonial government.

"Farmers have been 'exploited' long enough, since colonial times until now."<sup>47</sup> In the colonial era, the peasants in Java were forced to grow cane or to rent land to the sugar factories at low prices, and the government officials were paid to assist the sugar companies.<sup>48</sup>

43. Prawirodihardjo, Perusahaan Pengolah Padi, p. 149.

44. Partosoedarso, Tata Produksi dan Niaga Kopi, p. 122.

45. Ibid., p. 133.

46. It should be noted, however, that coffee is sold subject to international agreement, and the quotas are limited. But this should not prevent the introduction of innovations that reduce costs.

47. Mubyarto, et. al., Usahatani Tebu, p. 90.

48. Ibid., p. 72.

The sugar factories, now in government hands, still expect to get the land at a low price; the civil servants continue to play an "active role" in persuading the peasants to give up their rights in the land,<sup>49</sup> and the law makes it their duty to do so.<sup>50</sup>

In the colonial era, sugar for domestic sale was heavily taxed in order to maximize the surplus for export. But it is still heavily taxed even though Indonesia has changed from being the second largest sugar exporter in the world (after Cuba) to an importer. The report suggests that, since circumstances have changed, a lowering of the taxes on sugar might help in the rehabilitation of the industry.<sup>51</sup>

In the late colonial era, rice mills were regulated to prevent food shortages in the *patjeklik* (pre-harvest) period, to ensure that the small farmers did not become indebted to the mills, and to encourage price "stability."<sup>52</sup> These were the expressed aims of the regulation, but it may also be assumed that the colonial government was also concerned with the level of prices, because the cost of producing export crops and of government itself would have risen had the rice price been higher. Since independence, and since 1952 in particular, the rice milling industry has been more severely regulated than it was in colonial times. The stated aims of the regulations are the same as they were in 1940, but the result has been that the capacity to produce of the industry's modern sector has declined, as has the extent to which the existing capacity is used. It is also safe to say that a prime reason for the regulations is similar to the reason given above for the colonial period, namely, that, if the industry were not controlled, the price of rice to civil servants and plantation laborers would rise.<sup>53</sup>

In the rubber industry for a number of years before the war, the Dutch, and imperialist interests generally, were protected by a heavy tax on smallholder rubber. This lessened the competition with plantation rubber. As a result, the smallholders then got a return of but some 22 percent of the f.o.b. price for rubber.<sup>54</sup> At the time the A.E.S. study was undertaken, the peasants received from 15 to 20 percent of the (rupiah) f.o.b. price; the f.o.b. price had been converted into rupiah at the less favorable, BE, rate of exchange.<sup>55</sup> During the

49. Ibid., pp. 55 and 72.

50. Ibid., pp. 124 ff.

51. In December 1966, only some 44 percent of the (government-controlled) selling price was available to pay all the costs of producing, refining and packaging sugar for sale. The remaining 56 percent was for taxes and various "funds." Ibid., p. 85.

52. Prawirodihardjo, Perusahaan Pengolah Padi, p. 125.

53. Ibid., p. 146. The report also comments that seasonal price variations are large and that there are great price differentials between one region and another. Ibid., p. 147.

54. Sinaga, Pengusahaan Karet Rakjat, p. 53.

55. The figures that have just been given are for South Sumatra. The situation in South Kalimantan was somewhat better. For a partial explanation of the less favorable situation in South Sumatra, see

same period the worst return received by smallholders in Malaysia was 54 percent of the f.o.b. price.<sup>56</sup>

The continuity, or persistence, of policy from the colonial era to the present was emphasized only by the authors of the three studies cited; but continuities are observable in the other two reports as well. For coffee, the main "continuity" is that production methods have remained unchanged, as they have for rubber, and with agricultural extension, "continuity" can be discerned in the fact that fertilizer use has still not become habitual even though it was first used in the 1930's in most of the villages studied.<sup>57</sup>

Earlier, it was shown that farmers respond in the ways that one might expect to the economic environment they face. The landowners in the sugar growing areas are reluctant to rent their land because the rents are low, and the coffee growers expanded their production at a faster rate than the rubber smallholders because they were able to obtain a better price. The reports also show that there are many highly profitable but as yet little exploited ways of using available resources. It is not surprising to find that Indonesian farmers and traders are "subject to economic laws," for is not wealth in much shorter supply in Indonesia than in Australia or other developed countries? It is not the strength of economic forces that surprises but rather the poor performance of Indonesia's economy after the shackles of colonial rule had been thrown off.

The course of economic events after independence can be explained in part by the readiness of policy makers to cling to guidelines laid down in the colonial era--but to show these continuities is not to explain them, and the last substantive section of the article will be devoted to showing how the information from the reports can be used to explain why Indonesia's post-independence economic policies have taken the form they have.

#### Towards an Explanation of Economic Policy

For years Indonesia's economists urged that government policy in the economic field should take more account of Indonesia's economic realities. Their inability to suggest acceptable ways of arresting the economic decline or to change the course of economic policy during the Sukarno era (1945-1966) was no doubt due to political and social factors, and the Indonesian economists are well aware that this is so. As Professor M. Sadli of the University of Indonesia, and now Chairman of the Foreign Investment Board, remarked in 1961, "Both the economic theory of inflation and the economic policies needed to control it are easy to understand, but in practice it is

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the article by M. Jaspán, "Tolerance and Rejection of Cultural Impediments to Economic Growth: The South Sumatran Case," Bulletin of Indonesian Economic Studies, 3, No. 7 (June 1967).

56. Mubyarto, et. al., Usahatani Tebu, p. 50.

57. Soejono, Program "Bimas", pp. 98-99.

difficult to control because it is less an economic problem than a socio-political problem wearing economic clothes."

Four of the A.E.S. reports are on apparently economic subjects (the exception is the Soejono report on Bimas), and the heads of all five research teams were trained as economists, yet each of the reports helps to explain the socio-political dynamics of independent Indonesia.

Sajogyo, the Chairman of the Working Body of the Survey, is a sociologist. In guiding the work of each research team, he has emphasized that what are commonly regarded as purely economic facts have meaning far beyond the confines of economic theory and can be used to test hypotheses about social and political behavior. The clearest exposition of his basic position on this point is summed up in his statement: "If you want to understand the economy of my country, study our culture and our political system; if you want to understand our culture and our political system, study our economy."

Sajogyo does not suggest that his statement should be taken literally, for he recognizes that economic facts can still be given useful meaning by economists. But it is also clear that he feels that the analysis of economic facts will enable research workers to draw important conclusions about the political and cultural dynamics of Indonesian society.

The continuities in economic policy making discussed in the previous section provide convincing evidence that the structure of government in the first twenty years of the independence era must have been rather similar to that which existed under the colonial rulers. In the colonial era itself, Indonesia's alien rulers were able to use their political--and economic--power to ensure the maintenance of a very favorable economic situation for themselves.<sup>58</sup>

There were two main threads in colonial economic policies: the first consisted of measures designed to maintain their commanding economic position and the second of a variety of measures designed to arrest the decline in economic welfare that had long been occurring in Java. These threads also dominated the thinking of policy makers in the 1945-1965 period.<sup>59</sup> Of course, the government of independent Indonesia was no longer in the hands of aliens, but its top people were a small elite, and they believed strongly that it was the peasants' duty to serve the state. The government also believed that private wealth accumulation was somehow immoral and should be discouraged.

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58. The Dutch were a small elite, some 0.36 percent of the total population (1930 Census). Polak calculated that in 1930 the Europeans earned 47 times as much per head than the Indonesians, and 61 times as much in 1939. J. J. Polak, The National Income of Netherlands East Indies, 1921-1939 (New York: n.p., 1943).

59. There were a number of policy makers of the period who espoused different views. Of these, the most prominent were probably Mr. Sjafruddin Prawiranegara and Dr. Soemitro, both of whom lost whatever influence they may previously have had by joining the PRRI rebellion in 1958.

The main differences between the late colonial era and the first twenty years of independence were that the Indonesian government was not able to maintain economic stability, and that the originally small government elite expanded about seven-fold. It should also be stressed that nowhere in the reports do the authors indicate that the unproductive, indeed destructive, economic policies pursued by the successive Sukarno governments were consciously or wittingly designed to serve the interests of the bureaucratic elite. The authors do not believe in the often popular "*teori kedjahatan*," or "wickedness theory of politics." Rather do they take the view that governments would not have done what they did had the policy makers been more aware of the consequences of their policy decisions.

Farmers do make careful economic calculations, and, since independence, have come more and more to desire to be able to deal on equal terms with the sugar factories and the government. Their desire to do so has increased despite "their full awareness that the mills are state property" because they are also aware of the "economic manipulations, the corruption, the misuse of authority, the assumed social superiority and the high living on the part of sugar factory staffs."<sup>60</sup> Earlier, the disincentive effects of the low rents received by the peasant landowners was noted, as also was the role that government officials played in persuading them to give up their land-use rights at disadvantageous prices. It is therefore not surprising that only some 13 percent of the peasant landowners interviewed felt that the rental agreements were economically advantageous and that the remainder felt that they had been forced or compelled to rent their lands for sugar growing.<sup>61</sup>

Compulsion also plays its role in agricultural extension, a field where it might be anticipated that economic and educational factors would predominate. Earlier rice production programs had relied much on slogans and commands, but even the much better Bimas program relied to a considerable extent on *perintah halus* (gentle commands) from village and other officials.<sup>62</sup> However, once the "pressure" to adopt the new inputs and practices had been removed, following the departure of the program personnel, rates of use fell sharply, indicating that the farmers were not convinced that the recommendations were indeed economically profitable.<sup>63</sup>

Taxes and regulations that severely reduced producer income and incentives to act in a developmental way were features of the rubber, coffee and rice milling industries as well. The taxes were rarely direct and usually took the form of wealth transfers through the operations of the price control and exchange rate systems. "If the government had used its tax revenue for development, [it] would not matter that the farmers were heavily taxed for the nation as a whole would benefit in the long run, [but] the staff of the sugar

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60. Mubyarto, et. al., Usahatani Tebu, p. 38.

61. Ibid., p. 54. The tensions arising from this "exploitation" may be a partial explanation of the strength of the PKI in the sugar growing areas.

62. Soejono, Program "Bimas", p. 36.

63. Mubyarto, et. al., Usahatani Tebu, pp. 47-48.

industry lived luxuriously, just as the foreigners did in the colonial days."<sup>64</sup> The taxes collected from the other rural industries were often used in "non-productive" ways, too.

The present government has acknowledged that the economy was badly mismanaged under the previous government. The survey studies have indicated a wide range of development opportunities that could be used if the correct policies can be formulated. But these policies will be forthcoming only if the present generation of policy makers can come fully to understand the implications of the analyses made by the Agro-Economic Survey.

Above, the stress was on economic mismanagement and decline, but there was one encouraging feature of the post-independence economy that was not noted by any of the research teams. At first glance, the destruction of capital in the rubber and rice milling industries was an unmixed economic loss. But the authors of both reports have indicated that processing capacity in both industries rose rather than fell after independence. Existing capital assets were destroyed; the economy was always unstable; and the policy framework was, in a great number of ways, unfavorable for private investment. There nonetheless still remained enough incentive for private investors to save and to invest in remillings and rice hullers *to the point where total capacity rose overall*. The pity of it is that the opportunities for profitable investment consisted primarily of methods that were economically much less efficient than the techniques the new equipment was replacing, thus leading to a waste of resources.

Similarly, the long-continued mismanagement of the sugar industry did not deprive it of economic viability, as has already been noted. But the gloomy clouds did not always have silver linings, as developments in the coffee industry and in the Bimas program showed.

In the coffee industry, the introduction of the coffee stamps system in the mid-1960's also led to additional investment in export businesses, but the aim of the new exporters, up from sixteen in 1965 to forty-seven in 1967 (South Sumatra),<sup>65</sup> was not to trade in coffee but in the stamps themselves.<sup>66</sup>

The Bimas extension program is the third in a line of similar programs designed to increase rice output, but it, like the others, has become diluted. Such programs have usually worked well on a small scale (and this is encouraging for the future) but all have expanded rapidly because the government feels that it must do *something* for farmers, and along with the expansion comes lack of quality, manipulations and corruption. This all-too-quick conversion of a good program into, first, show business, and into monkey business not long after, indicates that the government has failed to understand the extent to which farmers are motivated by economic forces.<sup>67</sup> The

64. Ibid., p. 93.

65. Partosoedarso, Tata Produksi dan Niaga Kopi, p. 130.

66. Coffee stamps, which had to be bought, gave the right to export.

67. This statement is from a senior Indonesian agricultural official and is cited in the author's "Development Opportunities in Indonesian Agriculture," Bulletin of Indonesian Economic Studies,

various production programs in the rice industry have suffered because "blanket recommendations," for all areas and types of farms, for fertilizer and pesticide use have been made; whereas, no farmer would make his own production plans on such a rough and ready basis.<sup>68</sup>

The lack of economic understanding possessed by policy makers also shows up in both the sugar and the rubber industries. In the first case, farmers have often been forbidden the right to plant cane on the grounds that the food supply in the area will become diminished. In the second, as has been mentioned above, the system of converting dollar prices for various grades of rubber into rupiah prices has systematically encouraged the production of the lower rather than the higher grades.<sup>69</sup>

The problems in a number of important agricultural industries have been clearly defined in the reports. The reports have also shown what could be done to make resource use more productive. They likewise give a number of indications of why certain policies went wrong and the policies that would need to be pursued to turn the opportunities into income. The authors sense, however, that it will probably not be easy to change the general direction of policy making in the way most conducive to development.

#### Some Unresolved Policy Problems

Indonesia has a land tenure problem--in Java in particular. Land ownership is very uneven, and the maldistribution of land ownership is compounded by a severe population problem. Policy makers have long stressed the need for land reform, yet the data from the Bimas study show that tenants and share-croppers also respond quite well to extension.<sup>70</sup> Should land reform be retained as a policy goal, and, if so, what sort of land reform should be carried out? This study also indicates that where the program was successful land rents rose, which means that the agency which made the benefits possible is "subsidizing" the people who own rather than those who work the land.<sup>71</sup> Does this mean that the taxation

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3, No. 8 (October 1967), p. 59. Since that time the Bimas Gotong-Rojong programs (financed and executed by foreign companies, CIBA, Hoechst, Mitsubishi, etc.) have been established, expanded rapidly and abolished. In the 1970-1971 main rice season the main rice production program will be Bimas jang Disempurnakan (Improved Bimas). This program was developed on a pilot basis (20,000 hectares) in the Jogjakarta region in 1969-1970. It is planned to cover 1.3 million hectares with the program in 1970-1971.

68. Cf. Soejono, Program "Bimas," p. 53. Blanket, or national, recommendations are to be replaced with provincial, and hopefully local, recommendations from this year.

69. Sinaga, Pengusahaan Karet Rakjat, p. 62.

70. Soejono, Program "Bimas," p. 60.

71. Ibid.

system should be altered or that a land reform is indeed necessary?

The Bimas and the sugar studies both assume that self-sufficiency in rice and sugar would be sound economic policy for Indonesia, but, in the areas where sugar is grown, rice competes with sugar, and, as has been shown, greater economic benefits might be obtained more quickly from concentration of scarce resources in the rubber and coffee industries than in either the sugar or the rice industries. It is likely, however, that the government will retain self-sufficiency as a goal and devote most of its scarce capital and extension resources to the latter industries.

The different rental systems that have been tried in the sugar industry reflect different views of the technical and economic capabilities of the peasants. Two of the "systems" assume that small farmers could become competent sugar growers, and two do not. The sugar companies themselves continue to prefer the system (cash rent) which gives them complete control over the land during the growing period.<sup>72</sup> There is some evidence that farmers can become competent cane growers, but the argument between the industry and the peasants still seems to be conducted on an all-or-nothing basis.

Government instrumentalities still retain a strong desire to control the distribution of certain commodities, rice and sugar in particular,<sup>73</sup> and this desire to control often exceeds the desire to ensure that the best means possible are used to increase output and national income.

The rice milling study showed that the large processing firms (the rice mills) paid prices that were no worse than those paid by the operators of other rice processing facilities<sup>74</sup> and undermined, thereby, the argument of two decades that the mills had to be closely controlled because they possessed monopsony power. Yet the author argues later that the establishment of the smaller hullers rather than the building of new mills should be encouraged on the grounds that permits to build and operate the former would be easier to get than for the latter.<sup>75</sup>

In the rubber study, there is an even more spectacular example of the extent to which the general ideas that informed policy making were mistaken owing to the seeming inability of policy makers to think in economic--or business--terms. "We have been worrying needlessly for years about the future of natural rubber, but the supply price of our rubber is still but a fraction of the world price," because the cost of labor is much lower in Indonesia than in Malaysia and rubber production is a labor intensive industry.<sup>76</sup> Later, he points out that the future for natural rubber in Indonesia should be

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72. Mubyarto, et. al., Usahatani Tebu, p. 43.

73. Ibid., p. 50.

74. Prawirodihardjo, Perusahaan Pengolah Padi, p. 137.

75. Ibid., p. 156.

76. Sinaga, Pengusahaan Karet Rakjat, p. 13 (the quotation has been paraphrased).



better than for Malaysia, "and they have confidence in the future there."<sup>77</sup> As has been pointed out above, the on-farm prices were very low and production stagnated, but, if the necessary and very simple calculations had been made in dollars rather than in rupiah, it would have been obvious long ago that the rubber industry represented a valuable economic resource.

The expressed policy aims have always been to increase production, to boost exports, and to protect the small man.<sup>78</sup> But the reports have shown over and over that these laudable policy aims are a self-deception on the part of policy makers and that, with few exceptions (of which the original Bimas is probably the most important), the policies followed since independence have made it more rather than less difficult to reverse the unfavorable economic trends of the colonial period.

The perceptiveness of the reports on the dynamics of economic policy making is not accidental. I would, however, be the first to acknowledge that the particular interpretations that have been put on the data are my own and that the authors of the reports could well disagree with me on one or more of them. The important point, however, is that the data needed for an analysis of this crucial question would have been difficult if not impossible to get had the studies not been undertaken.

When the studies were designed, care was taken to ensure that information would be collected from representatives of all groups that have a direct economic interest in whatever happens in particular industries. After all, it is people who make economic decisions, and, in any society, the terms on which economic exchanges take place between the various interest groups play a profound role in determining not only the shape of the economy itself but also the quality of social and political life.

In the sugar study, information was collected from farmers, officials and people who work for the sugar industry. In the Bimas study, the information sources were farmers and officials, including extension workers. For the rubber study, information was collected from farmers, traders, processors and officials, and the same was true for the coffee study. For the rice milling study the information sources were farmers, officials and processors.

All the studies were designed to permit the analysis of the relationships between important social groups. Most of the specific information collected was apparently "economic," but, as has been shown, this information could be used to illuminate problems broader than those normally studied by economists.

### The Reports Reviewed

It is the essence of the work done by the Agro-Economic Survey that the quality of the relationships between social groups should

77. Ibid., p. 22.

78. For two good statements of this, see Ibid., p. 14 and Prawirodihardjo, Perusahaan Pengolah Padi, p. 146.

be the focus of each study. The insistence on the use of research designs that permit this is probably the single most important methodological contribution made by the Survey.

Other contributions undoubtedly include the policy recommendations that have been submitted to the agencies that commissioned each study. As has been noted earlier, some of these recommendations have been put into effect, with generally fruitful results, and the Survey, originally scheduled to run for two years, is now in its fifth year of operation.

After everything that has been said so far, it may now seem a little invidious to note some deficiencies in the reports. The deficiencies, some of which were unavoidable, do not, however, detract much from the value the reports so clearly possess.<sup>79</sup>

The research workers had to struggle with secondary data that were often inaccurate. For example, the estimates for domestic consumption of coffee range from 21,000 to 68,000 tons.<sup>80</sup> A related difficulty was faced by the group that did the sugar study: one agency proved very reluctant to provide information essential to the study on the grounds that it was a "business secret."<sup>81</sup>

The individual studies also display a number of methodological and analytical weaknesses which, while not serious, detract somewhat from the scientific value of the reports. In two of the reports (on rice and on coffee), it is assumed that point estimates of costs of production, for hand-pounding of rice and for peasant coffee, can be made, and this assumption led to the creation of data that have spurious accuracy at best.

In the report on rubber, stress is laid on the slow rate of new planting, and much of the analysis is concerned with showing why this should be so, yet the survey data show that the rate of new planting

79. Earlier it was noted that most of the research workers were young and had not had much research experience. To ensure that the work was well done, the Agro-Economic Survey scheduled regular workshops and training courses. At these meetings, all the work that had been done so far, and all plans for future work, were subject to close scrutiny by the members of the other research teams, by Professor Sajogyo, and, from time to time, by research consultants (Dr. E. de Vries in particular). An account of one such training course and how it affected the quality of the work done by the A.E.S. is, David H. Penny, "The Tjiawi Training Center" in The Research Process (forthcoming), pp. 128-181. (The reports are marred by various typing and proofreading errors. The most serious are in Mubyarto, et. al., Usahatani Tebu, p. 16 and Partosoedarso, Tata Produksi dan Niaga Kopi, p. 151. But there are others in each of the reports.)
80. Four sources, estimates for 1966. Partosoedarso, Tata Produksi dan Niaga Kopi, p. 113. Other major statements on the same subject are found on Ibid., p. 103 and Sinaga, Pengusahaan Karet Rakjat, p. 18.
81. Mubyarto, et. al., Usahatani Tebu, p. 102.

by the farmers interviewed was quite a good deal higher than the official figures would suggest.<sup>82</sup> The analytical implications of this discrepancy are not, however, commented upon.

As has already been noted, the research designs were in general excellent. But the Bimas study would have provided data that are more useful and more convincing if a somewhat more complicated research design had been used. This study would have been improved had the team collected data from an extra two villages, where the Bimas program had operated only in the 1964-1965 crop season,<sup>83</sup> and if it had included more information from and about the extension workers rather than relying for the most part on information showing what happened on the farms.

In his foreword, Minister Tojib emphasizes the need to describe the socio-economic diversity but in many reports data showing *ranges in variability* in certain key parameters are not given. For example, the sugar study gives no information on the actual rents received by the farmers even though it is hinted that these do vary from place to place.<sup>84</sup> In the Bimas study, the data for the control villages are only for one season; whereas, the study used data for up to four seasons from the other villages.<sup>85</sup> In the rice milling study, point estimates were given for the milling out-turn from various methods and also for the costs of each method, even though it is inevitable that these will vary widely for one reason or another.<sup>86</sup>

Opportunities for needed economic analyses were sometimes overlooked. In the Bimas study the use of fertilizer is several times justified on agronomic grounds alone,<sup>87</sup> and, in the rice milling study, projections for investment in processing facilities are made only in physical terms and no economic calculations are made.<sup>88</sup> The research workers also had to struggle with some conceptual problems, for example, the best definitions to give to such technical terms as "income" and "commercialization."

The reports also vary widely in readability. They were written for policy makers and interested laymen, and it may be taken for granted that most of these men lack the academic background and training of the authors. It is likely that the readers from the agencies that sponsored the studies would have found the rubber, rice milling and coffee study reports sufficiently easy to understand,

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82. Sinaga, Pengusahaan Karet Rakjat, p. 33.

83. There were three "treatments"--no Bimas, Bimas once (1965-1966), and Bimas twice (1964-1965 and 1965-1966). But, as the author pointed out, Bimas 1965-1966 was a very different sort of program from Bimas 1964-1965.

84. Mubyarto, et. al., Usahatani Tebu, p. 48.

85. Soejono, Program "Bimas", p. 42.

86. Prawirodihardjo, Perusahaan Pengolah Padi, pp. 131 and 135.

87. Soejono, Program "Bimas", pp. 54 and 67.

88. Prawirodihardjo, Perusahaan Pengolah Padi, p. 156.

but they would have had some difficulties with the other two (Bimas and sugar). In these two cases, the difficulties would be due to the length of the reports, to the quality of the writing and the development of theme, and to the way in which unfamiliar technical terms are used.

A most welcome feature of the reports on the other hand is that the research methods used have been exposed to the public gaze, occasionally in the body of the text but more often in detailed appendices. This helps interested readers to evaluate the studies, and it also helps people who are planning to undertake similar studies. There is much of value for students of research methods in each and every one of the studies reviewed here.

In closing, I should reiterate that the weaknesses are far outweighed by the strengths of the reports, whether taken individually or as a group. The field studies of the Agro-Economic Survey have made a magnificent contribution towards a better understanding of Indonesia's "agro-economy" and to the formation of a sounder basis for policy making for development.