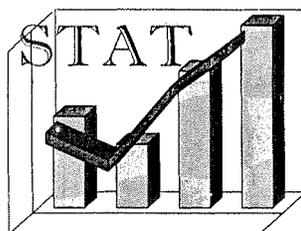


# Collected Project Reports

## Volume I

# AGRICULTURE



Statistical Assistance to the Government of Indonesia (STAT) Project  
USAID Contract No. PCE-I-00-99-00009-00

**BIDE**  
Boston Institute for Developing Economies

**DAI**  
Development Alternatives, Inc.

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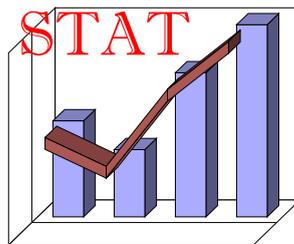


# **SURVEYING AGRICULTURAL HOUSEHOLDS**

Report # 4

by  
**Vijay Verma**

June, 2000



**Statistical Assistance to the Government of Indonesia (STAT) Project**  
USAID Contract No. PCE-I-00-99-00009-00

June 30, 2000

Surveying Agricultural Households

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June 30, 2000

Surveying Agricultural Households

## I. INTRODUCTION<sup>1</sup>

Obtaining reliable information on food production and consumption has been a long-standing concern in Indonesia. Currently, large scale information is collected on area harvested and yields to obtain estimates of production of various types of food crops. The current situation is reviewed below briefly. It appears that a good strategy would be to greatly reduce the size of the current crop-cutting survey, and divert a part of the resources saved to develop a comprehensive and regular survey of farming households.

## II. CURRENT METHODOLOGY

### **Cultivated Area**

Current statistics on agriculture are collected as follows. From each Kecamatan, agricultural extension agents report (a) every month on area under paddy and other food crops, on vegetable production, and on area of damage by pests or calamity; (b) every quarter on fruit production; and (c) annually on area by land utilization and use of agricultural machinery. This information is obtained on a complete census basis. The results are published annually by the BPS, separately by month, quarter, four-monthly round or yearly as determined by the frequency of collection.

### **Yield**

In parallel, yields are obtained for paddy and other food crops using the crop-cutting method. For paddy, sweet potatoes, peanuts and soybeans, crop-cuts over a random sample of 2.5 by 2.5 m subplots are used; for maize and cassava, the "row-subplot" variant (harvesting a specified length of plant row and measuring average distance between rows) is used. Field work is shared equally by extension agents and BPS statistical agents. The sample size is large, around 110,000 crop-cuts annually, each cut representing around 120 hectares of cultivated land in the country.

### **Production**

Total production is estimated by multiplying yields and harvested areas estimated from the two independent systems.

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<sup>1</sup> This report has been prepared promptly, largely during the Consultant's visit to the BPS. The various recommendations and details in the report should therefore be viewed as tentative, and may need to be revised and developed further at the time of implementation.

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Surveying Agricultural Households

### **Reporting Domains**

For each category of production, the country is divided into two domains: (a) potential areas which cumulatively account for 90% or more of the total production in the category, and (b) the remainder, non-potential areas. In (a) data are reported disaggregated to Kabupaten level, and in (b) to the provincial level. It is clear that both in time and space the level of disaggregation presented is very detailed.

## **III. POSSIBLE SHORTCOMINGS**

Little is known directly about the quality of the routine information on areas. Complete coverage and high frequency of reporting on areas and other aspects are burdensome, and result in low quality of the data provided. The same remarks can be made in regard to the outstandingly large size of the crop-cut sample.

The independence of the two systems for estimating areas and yields is prone to the danger of incompatibility of concepts and coverage, and hence to the danger of systematic biases in estimation of production computed as the product of two independent measures. Since it is compiled only at Kecamatan and higher levels, information on farming practices, use of machinery etc cannot be related to characteristics of INDIVIDUAL FARMERS.

Comparisons with data on food consumption indicate that over-estimation of production has existed for a long time. It is believed that this results from over-estimation BOTH in cultivated areas and in yields. Even within the same system, some of the fluctuations from one year to the next appear very implausible. See for instance Table 1.

## **IV. PROPOSAL: A SURVEY OF FARMING HOUSEHOLDS**

The proposal for consideration is to SUPPLEMENT the existing system by a regular agricultural survey at the household level. Various pilot surveys have been conducted on this line in the past. The survey will aim at overcoming the shortcomings of the current system. The resources for it can come from a major reduction in the sample size of the present crop-cut sample.

To illustrate the approach in the survey, consider the production of paddy. From a listing of households in a sample of enumeration areas or blocks, households operating a farm and cultivating paddy can be identified, and a sample of these interviewed in detail. Among other things, information may be obtained on number of plots and cultivated and harvested areas, possibly including physical measurement of areas. Farmers own 'subjective' estimated of

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production can be obtained. Crop-cutting may be undertaken on the same sample or a sub-sample thereof. Furthermore, on a relatively small sub-sample of the plots enumerated, farmers cooperation may be sought to weigh the entire harvest to evaluate the production estimates (a) as given by farmers; (b) as computed by multiplying the measured areas and yields; and (c) at the Kecamatan level, as computed from extension agents' reports. The same interview can be used to obtain information not only on paddy but also other types of production by households mainly engaged in the production of paddy.

The same system can be used to cover representative samples of agricultural households primarily engaged in production other than paddy cultivation, including those not operating land or those engaged as hired managers or even as laborers. This is in line with the approach followed in the agricultural census.

## **V. RESOURCES**

Where will the resources come from for such a survey? From a major reduction in the size of the crop-cut sample. An important point is the need for appropriate allocation of sufficient resources to the control of non-sampling errors. This argues for moderation in the choice of sample size and diversion of more resources, first towards assessment and then towards control (through better supervision, training etc) of non-sampling errors.

One approach to meet the need for producing estimates in great geographical and temporal detail, yet without losing control over sample size requirements is to make more use of model-based inference. The continuing and repeated nature of the survey opens up this possibility. The basic idea is to explore, and make use of if present, stability in patterns of distribution which might exist despite change in overall levels. A variety of 'small area' or synthetic estimation techniques have been developed for this purpose, and their applicability to the Indonesia conditions can be tested.

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Surveying Agricultural Households

**Table 1**  
**Paddy and secondary food production 1997, 1998**

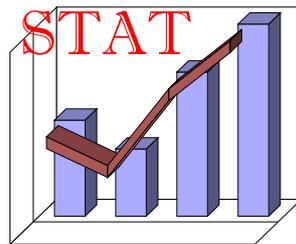
	Paddy	maize	cassava	soybeans	peanuts	mungbeans	st potatoes	weighted mean
<b>Java</b>								
area harvested 1997	5,381	1,749	687	694	400	155	69	9,135
area harvested 1998	5,752	2,218	651	669	423	174	82	9,969
% change 98 over 97								
production	-0.58	26.62	-4.90	-5.24	1.26	13.22	17.14	4.40
yield	-6.99	-0.18	0.00	-1.66	-4.18	0.67	-0.92	-4.46
area	6.89	26.82	-5.24	-3.60	5.75	12.26	18.84	9.13
% area harvested								
1997	58.9	19.1	7.5	7.6	4.4	1.7	0.8	100.0
1998	57.7	22.2	6.5	6.7	4.2	1.7	0.8	100.0
<b>Outer</b>								
area harvested 1997	5,760	1,607	556	425	228	139	126	8,841
area harvested 1998	5,978	1,630	554	426	228	165	120	9,101
% change 98 over 97								
production	0.10	2.79	0.10	-1.12	-0.61	21.19	-3.89	0.79
yield	-3.56	1.35	0.92	-1.41	-0.74	2.27	-4.55	-2.13
area	3.78	1.43	-0.36	0.24	0.00	18.71	-4.76	2.94
% area harvested								
1997	65.2	18.2	6.3	4.8	2.6	1.6	1.4	100.0
1998	65.7	17.9	6.1	4.7	2.5	1.8	1.3	100.0
<b>Total</b>								
area harvested 1997	11,141	3,356	1,243	1,119	628	294	195	17,976
area harvested 1998	11,730	3,848	1,205	1,095	651	339	202	19,070
% change 98 over 97								
production	-0.28	15.95	-2.89	-3.78	0.58	16.96	4.74	2.72
yield	-5.30	1.11	0.00	-1.73	-3.01	1.35	1.05	-3.26
area	5.29	14.66	-3.06	-2.14	3.66	15.31	3.59	6.09
% area harvested								
1997	62.0	18.7	6.9	6.2	3.5	1.6	1.1	100.0
1998	61.5	20.2	6.3	5.7	3.4	1.8	1.1	100.0

# AGRICULTURAL CENSUS AND SURVEYS

Report # 23  
Statistical Paper # 5

by  
**Vijay Verma**

March, 2001



**Statistical Assistance to the Government of Indonesia (STAT) Project**  
USAID Contract No. PCE-I-00-99-00009-00

March 6, 2001

Agricultural Census and Surveys

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## I. CURRENT STATISTICS

This report is a follow-up to my earlier report *Surveying Agricultural Households*<sup>1</sup>. In this report, some more empirical evidence is examined. This reinforces the main conclusions presented in the earlier report. These are as follows:

1. Area under cultivation (and other current statistics) are collected routinely on a complete coverage basis. Complete coverage and high frequency of reporting on areas and other aspects are burdensome.<sup>2</sup>
2. In parallel, yields are obtained for paddy and other food crops using the crop-cutting method (with field work shared equally by extension agents and BPS statistical agents). While the sample size has been greatly reduced, from earlier 110,000 crop-cuts annually to around 30,000 in year 2000, this still remains a major and costly operation.
3. It appears certain that this system results in low quality of the data provided. The independence of the two systems for estimating areas and yields is prone to the danger of incompatibility of concepts and coverage, and hence to the danger of systematic biases in estimation of production computed as the product of two independent measures.
4. Some of the fluctuations from one year to the next appear very implausible. These suggest a rather uncontrolled data collection operation, and the presence of large and unstable biases in the results.
5. Comparisons with data on food consumption indicate that over-estimation of production has existed for a long time. It is believed that this results from over-estimation both in cultivated areas and in yields.

Table 1 presents some empirical information supporting the above statements. The table summarizes the reported change in cultivated area, yield and production between 1997 and 1998, as published by BPS. The figures are at the national level, based on complete coverage (in the

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<sup>1</sup> STAT Project Report # 4, June, 2000.

<sup>2</sup> See Appendix A below for an outline of the current methodology

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case of areas) or very large samples (in the case of yield), and hence are practically unaffected by sampling error. At the same time, it appears very unlikely that such large changes in a single year could be real. Also, the pattern seems to lack consistency: whether we look across Java and Outer Islands, or across different crops.

For instance in Java, paddy and peanuts indicate a moderately large increase in the cultivated area between 1997-98, but an almost equally large reduction in yield, so that the recorded change in production is relatively small. Such a 'balance' is not expected.

By contrast, maize, mungbeans and sweet potatoes in Java all record very large (implausible?) increases in the area cultivated, nearly constant yields, and hence also very large increases in the total production. In Outer Islands, this pattern appears only for mungbeans.

**Table 1**  
**Percentage Change Recorded Between 1997 and 1998 in Area, Yield and Production**

	Java			Outside Java			Indonesia		
	area	yield	production	area	yield	production	area	yield	production
paddy	<b>6.90</b>	<b>-6.99</b>	-0.58	<b>3.80</b>	<b>-3.56</b>	0.10	5.29	-5.30	-0.28
maize	<b>26.85</b>	-0.18	26.62	1.44	1.35	2.79	14.68	1.11	15.95
soybeans	<b>-3.64</b>	-1.66	-5.24	0.30	-1.41	-1.12	-2.15	-1.73	-3.78
peanuts	<b>5.70</b>	<b>-4.18</b>	1.26	0.07	-0.74	-0.61	3.65	-3.01	0.58
mungbeans	<b>12.40</b>	0.67	13.22	<b>18.52</b>	2.27	21.19	15.31	1.35	16.96
cassava	<b>-5.28</b>	0.00	-4.90	-0.31	0.92	0.10	-3.06	0.00	-2.89
sweet potatoes	<b>17.84</b>	-0.92	17.14	<b>-4.55</b>	1.16	-3.89	3.41	1.05	4.74

### Recommendations:

1. It is highly desirable to examine the consistency and plausibility of the data from the survey. This should be done *at the level of the greatest possible disaggregation*: by year, quarter, even by month where possible, for the long time series of the information which has been collected; and also by province, kabupaten, and even by individual kecamatan where possible. If changes as large as those in Table 1 can appear for the whole country, it is highly likely that some entirely implausible levels of change are present in the data when disaggregated to smaller units of time and space. 'Plausibility rules' should be established to edit and correct implausible data points.
2. With kecamatan if possible (at least kabupaten otherwise) as the unit, and by major crop, BPS should study the mean values and standard deviation of the basic variables: (i) reported yield; (ii) cultivated area/agricultural population in the unit; and (iii) production/agricultural population in the unit. (The denominators for (ii) and (iii) may be estimated from census and population

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projections, and from extrapolations of the information on the proportions in agriculture as required.) Such information is useful not only for evaluating the data, but also for sample design.

## II. PILOT STUDY USING THE HOUSEHOLD APPROACH

A very large scale pilot study for the measurement of agricultural areas, production, yields and other variables was conducted in Java during 1996-97. The sample covered 6,000 wilcah, and as many as 262,000 households in Java. The results have been analysed and published by BPS in detail.

The system differs as follows from the current methodology:

Source	Measured	Computed
Current statistics	Area (A) 'eye estimates'; Yield (Y) 'crop cuts'	Production $P = A * Y$
Household approach	Area (A); Production (P) both from 'farmers reports'	Yield $Y = P/A$

### A. Comparison with Current Statistics

Table 2 shows the level of difference from the current statistics approach, by 4-monthly periods and by province. Compared to the household approach, the current method 'over-estimates' cultivated areas by 20%, yields by over 25%, and hence production by over 50%. (Of course, alternatively this may be seen as 'under-estimates' from the household approach, compared to the current methodology, by 17% in area, 21% in yield and 35% in production. The truth may well lie in-between the two. Still, as to which approach is *more correct* needs to be established by a careful evaluation of the results.)

Note in particular the *above average* discrepancies for the January-April and the Jawa Timur area data, and for both the area and yield data for DI Yogyakarta. One source of the difference can be under-coverage of the sampling frame with the household-based approach. This would result in under-estimation of area (and production), but is unlikely to be an explanation for the big difference between the two sources in the yield values.

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**Table 2**  
**Result of Pilot: Comparison of Existing System with Household Survey Approach (Paddy)**

	(H) household survey			(M) MOA+cropcut			'over-estimate' (M-H)/H %		
	area	yield	production	area	yield	production	area	yield	production
jan-apr	1,984	50.1	99,458	2,690	63.3	170,274	<u>35.6</u>	26.3	71.2
may-aug	1,592	47.5	75,538	1,744	59.3	103,490	9.6	25.0	37.0
sep-dec	703	47.3	33,294	726	60.5	43,902	3.2	27.8	31.9
Jawa Barat	1,705	49.0	83,551	1,963	60.7	119,198	15.1	23.9	42.7
Jawa Tengah	1,290	47.9	61,738	1,551	61.3	95,029	20.2	28.0	53.9
DI Yogyakarta	79	46.5	3,666	102	64.5	6,597	<u>29.7</u>	<u>38.7</u>	79.9
Jawa Timur	1,205	49.3	59,342	1,543	62.9	97,017	<u>28.1</u>	27.6	63.5
total	4,279	48.7	208,315	5,160	61.6	317,947	<b>20.6</b>	<b>26.6</b>	<b>52.6</b>

### Recommendations:

These are very large differences.

1. Firstly, it should be investigated whether the two systems are measuring the same things. For instance, are different types of land use – agricultural area, cultivated area, harvested area, etc. - being correctly distinguished? Also, is production by different end use – total production, own consumption, given as wages, animal feed, wastage, marketed, etc. - being correctly and consistently distinguished in the two systems?
2. In any case, in the collection of the data in either of the systems, separate reporting should be sought distinguishing area by land-use and production by end-use, so that the final variables can be constructed without confusion.
3. As for the current statistics noted in the previous section, it is highly desirable to examine the consistency and plausibility of the comparative data from the two sources *at the level of the greatest possible disaggregation*: at least by 4-month period classified by province, and by individual kabupaten where possible. If differences as large as those in Table 2 can appear for the whole country, it is highly likely that some very extreme (hence highly implausible) differences are present in the data when disaggregated. *Comparing in detail these differences at the disaggregated level with the detailed time-series of comparisons from Recommendation 1 above may often provide a clear indication as to which source is likely to be more in error.*

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### B. Analysis of Variation

The study of mean values and standard deviation by kabupaten, both with the household and wilcah as the units of analysis, is useful for evaluating the data as well as for sample design. Such study should be done for all the basic variables by major crop.

With the household as the unit, this should include: (i) reported cultivated area; (ii) reported production; and (iii) computed yield. With wilcah as the unit of analysis, this should include: (i) reported cultivated area per agricultural household in the wilcah; (ii) reported production per agricultural household in the wilcah; and (iii) mean yield ('combined ratio' of the above two figures). Also would be useful for sample design purposes information on (iv) number of agricultural households in the wilcah, and (v) number of households in the sample from the wilcah.

The BPS have provided some information on mean values and variation of *yields* analysed in Tables 3 A-C. Table 3A shows the mean, standard deviation and their ratio (coefficient of variation) of paddy yield with the household as the unit. (The data have been provided by BPS by province and kabupaten, but in the tables here, breakdown by kabupaten has been shown only for one of the provinces.) The computed yields by household are quite variable (average cv=40%) – despite the claim sometimes made that there is little variation in these values. (In 60% of individual kabupaten in the province, estimated cv is in the range 30-45%.)

Table 3B shows the same computations performed with wilcah as the unit of analysis, i.e. it shows standard deviation and cv's for wilcah means<sup>3</sup>. The average cv among these values is surprisingly large, at over 25%.

Table 3C uses this information to estimate the design effects to which the sample for the Pilot is subject. Assuming that we are dealing with a simple random sample of wilcah, with a random sample of households within each sample wilcah, we have:

$$deft^2 = \left( \frac{S_w^2}{S_k^2/\bar{b}} \right) = 1 + roh * (\bar{b} - 1)$$

Here  $deft^2$  is the factor by which variance is inflated due to the use of a two-stage sampling design (wilcah, followed by households), and roh is the corresponding intra-cluster correlation coefficient, with  $\bar{b}$  as the average number of sample households per wilcah.  $S_h$  is the standard

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<sup>3</sup> The mean values in Tables 3A and 3B differ somewhat because the latter presumably gives the simple mean on wilcah means in the kabupaten, while the former is the true per household mean.

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deviation of household yields, and  $S_w$  that of wilcah means<sup>4</sup>.

If wilcah were merely random groupings of households, we would expect:

$$S_w^2 = S_a^2 / \bar{b},$$

but  $S_w$  exceeds this value because of the positive correlation between households in the same wilcah.<sup>5</sup>

Table 3C shows extremely large values of design effect, with  $\text{deft}^2 > 25$  (representing the factor by which the effective sample size has been reduced compared to a SRS of households), or  $\text{deft} > 5$  (representing the factor by which standard error has been inflated). This is the result of *very large cluster sizes* (65 sample households per wilcah), and also of the *very high degree of homogeneity* among households within the same wilcah (average  $\text{roh}=0.4$ ).

### Recommendations

These results have serious implications for the design of a household-based approach:

1. If such high values of  $\text{roh}$  are real, then this implies that *much smaller clusters* (i.e., numbers of sample households per wilcah) should be used. With  $\text{roh}=0.4$ , and for example 6 sample households per wilcah, we will have  $\text{deft}^2=1+0.4*(6-1)=3.0$ , or  $\text{deft}=1.7$ .
2. However, it is also possible (indeed likely) that these large  $\text{roh}$  values are caused in part by some problems with the data. How are the enumerators reporting area and yield values such that they result in so uniform yield values within wilcahs? It is necessary for BPS to investigate data at the micro-level, and also by individual enumerator.
3. The above points apply to variance of yield values. It is also necessary to analyse those for areas and production figures before final conclusions about the sample design can be drawn.

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<sup>4</sup> In the actual computations in Table 3C, I have used the cv's rather than the standard deviation (S) values, because the latter are affected by the slight differences in the mean values as a results of the manner in which these means have been computed. (See previous footnote.)

<sup>5</sup> The BPS (unpublished) data provided to me also include an additional column in each of the tables A and B. This is labelled as 'standard error of the mean', and computed as the ratio [3]/[1] in Table A and as [7]/[5] in table B. While the latter is essentially correct as the actual standard error of mean yield, the former is not: it is what the standard error would have been with a simple random sample of households, i.e. with  $\text{deft}=1.0$ .

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**Table 3**  
**Variation of Yield (pilot survey - household approach)**

<b>3A. Yield by household</b>					
province		[1]	[2]	[3]	[4]
	kabupaten	Households	mean	StDev	cv(%)
32	1	2,675	.472	0.209	44.2
	2	3,048	0.359	0.180	50.2
	3	3,987	0.436	0.171	39.2
	4	6,357	0.458	0.159	34.8
	5	5,431	0.480	0.135	28.2
	6	4,915	0.445	0.133	29.9
	7	5,353	0.455	0.193	42.5
	8	6,157	0.421	0.152	36.2
	9	6,900	0.438	0.152	34.8
	10	2,704	0.445	0.143	32.2
	11	1,837	0.495	0.145	29.3
	12	3,571	0.481	0.177	36.8
	13	3,397	0.445	0.123	27.6
	14	3,882	0.458	0.159	34.7
	15	3,830	0.475	0.156	32.8
	16	1,428	0.400	0.168	42.0
	17	2,901	0.549	0.128	23.4
	18	1,863	0.500	0.226	45.1
	19	2,013	0.414	0.221	53.4
	20	2,814	0.484	0.227	46.9
	71	5	0.452	0.268	59.2
	72	38	0.561	0.224	40.0
	73	154	0.491	0.180	36.6
	74	1	0.350		
	75	56	0.791	0.508	64.3
32 total		75,317	0.454	0.170	37.4
33 total		77,497	0.462	0.186	40.3
34 total		18,468	0.445	0.185	41.5
35 total		75,696	0.471	0.203	43.1
grand total		246,978	0.461	0.186	40.4

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<b>Table 3 (cont.)</b>						
<b>Variation of yield (pilot survey - household approach)</b>						
<b>3B. Yield averaged over wilcah</b>						
province		[5]	[6]	[7]	[8]	
	kabupaten	no. of wilcah	mean	StDev	cv(%)	
32	1	32	0.468	0.099	21.2	
	2	45	0.358	0.124	34.7	
	3	62	0.458	0.112	24.4	
	4	101	0.474	0.083	17.5	
	5	91	0.500	0.091	18.1	
	6	75	0.439	0.082	18.6	
	7	78	0.453	0.113	24.9	
	8	89	0.434	0.078	17.9	
	9	105	0.444	0.078	17.6	
	10	40	0.443	0.074	16.8	
	11	32	0.505	0.110	21.8	
	12	51	0.482	0.065	13.4	
	13	50	0.443	0.051	11.5	
	14	63	0.459	0.092	20.1	
	15	67	0.478	0.108	22.5	
	16	23	0.413	0.054	13.2	
	17	43	0.535	0.066	12.4	
	18	33	0.496	0.087	17.5	
	19	30	0.492	0.100	20.3	
	20	47	0.457	0.125	27.4	
	71	2	0.530	0.042	8.0	
	72	3	0.603	0.060	10.0	
	73	8	0.429	0.091	21.3	
	74	1	0.350	0.000		
	75	3	0.593	0.527		
32 total		1,174	0.461	0.099	21.5	
33 total		1,135	0.463	0.120	25.9	
34 total		254	0.487	0.188	38.6	
35 total		1,254	0.464	0.128	27.7	
grand total		3,817	0.464	0.121	26,0	

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<b>Table 3 (cont). Variation of yield (pilot survey - household approach)</b>					
<b>3C Design effects</b>					
province	kabupaten	hhs/wilcah [9]= [1]/[5]	deft2 [10]= [9]*{[8]/[4]}^2	roh [11]= {[10]-1}/{[9]-1}	
	32	1	84	19.2	0.22
		2	68	32.5	0.47
		3	64	24.9	0.38
		4	63	15.9	0.24
		5	60	24.6	0.40
		6	66	25.4	0.38
		7	69	23.6	0.33
		8	69	16.9	0.23
		9	66	16.8	0.24
		10	68	18.5	0.26
		11	57	31.6	0.54
		12	70	9.3	0.12
		13	68	11.8	0.16
		14	62	20.7	0.32
		15	57	27.0	0.46
		16	62	6.1	0.08
		17	67	18.9	0.27
		18	56	8.5	0.13
		19	67	9.7	0.13
		20	60	20.5	0.33
		71	3		
		72	13	0.8	-0.02
		73	19	6.5	0.30
		74	1		
		75	19		
	32 total		64	21.3	0.32
	33 total		68	28.1	0.40
	34 total		73	62.9	0.86
	35 total		60	24.9	0.40
	grand total		65	26.9	0.41

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### III. PROPOSAL: A SURVEY OF FARMING HOUSEHOLDS

As recommended in a previous report<sup>6</sup>, the proposal for consideration is to *supplement the existing system by a regular agricultural survey at the household level*. The survey will aim at overcoming the shortcomings of the current system. The already reduced crop-cut sample will perhaps release some resources for that purpose.

The pilot surveys already conducted should be analyzed further. It may be appropriate to begin with a limited geographical coverage before expanding the new approach to the national level.

One further advantage of a household based approach is that information on production and yields can be related to a host of other policy relevant variables, such as on farming practices, use of machinery, etc., and also to personal characteristics of individual farmers and agricultural households.

### IV. AGRICULTURAL CENSUS

The planning and design of the next Census of Agriculture is a major and complex operation, and its many details are not considered in this report. Two main recommendations are made here.

#### Recommendations

1. The Census of Agriculture should be based on a large sample drawn from the last Population Census.
2. The household listing operation within the sample wilcah for the Census of Agriculture must be greatly simplified. This is because this is a large-scale operation which has to cover all households in sample wilcah. The collection of detailed information should be confined to the *sample* of 'potentially' agricultural households finally included in the Census of Agriculture.

The first recommendation has been briefly discussed in my earlier report *Area Sampling for Economic and Agricultural Censuses based on Population Census 2000*.<sup>7</sup> Of course, BPS needs to give much more detailed and careful consideration to the issues.

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<sup>6</sup> *Surveying Agricultural Households, Ibid.*

<sup>7</sup> STAT Project Report # 2, June 2000

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The second recommendation has the following background. Hitherto, the Census of Agriculture has involved three main enumerations:

- (1) an operation to list households in selected wilcah;
- (2) collection of quite detailed information for each household on whether it is eligible for the Census of Agriculture, and for which of the many questionnaires;
- (3) application of the particular questionnaire to each eligible household, covering a separate sample for each application (sector).

This system is costly and complicated. The proposed alternative is to *eliminate* step (2), but to include in step (1) one or more simple questions to identify whether the household is 'potentially' an agricultural household; and to relegate the collection of detailed information to the selected sample in step (3). The elaborate FAO criteria for the inclusion of individual households into the Census of Agriculture can be based on the information collected during step (3), and refined at the *analysis stage*.

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## **APPENDIX A**

### **BRIEF NOTE ON CURRENT AGRICULTURAL STATISTICS METHODOLOGY**

#### **Cultivated Area**

Current statistics on agriculture are collected as follows. From each Kecamatan agricultural extension agents (Mantri Tani) report (a) every month on area under paddy and other food crops, on vegetable production, and on area of damage by pests or calamity; (b) every quarter on fruit production; and (c) annually on area by land utilisation and use of agricultural machinery. This information is obtained on a complete census basis. The results are published annually by the BPS, separately by month, quarter, 4-monthly round or yearly as determined by the frequency of collection.

#### **Yield**

In parallel, yields are obtained for paddy and other food crops using the crop-cutting method. For paddy, sweet potatoes, peanuts and soybeans, crop-cuts over a random sample of 2.5 by 2.5 m subplots are used; for maize and cassava, the “row-subplot” variant (harvesting a specified length of plant row and measuring average distance between rows) is used. Field work is shared equally by extension agents and BPS statistical agents. The sample size has been large in the past - around 110,000 crop-cuts annually, each cut representing around 120 ha of cultivated land in the country – but reduced to 30,000 crop-cuts in year 2000 due to budgetary reasons. Field work is shared equally by extension agents and BPS statistical agents.

#### **Production**

Total production is estimated by multiplying yields and harvested areas estimated from the two independent systems.

#### **Reporting Domains**

For each category of production, the country is divided into two domains: (a) “potential areas” which cumulatively account for 90% or more of the total production in the category, and (b) the remainder, “non-potential areas”. In (a) data are reported disaggregated to the Kabupaten level, and in (b) to the provincial level. It is clear that both in time and space the level of disaggregation presented is very detailed.

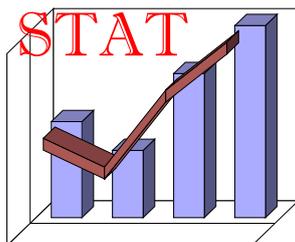
**PREPARATIONS FOR THE  
2003 AGRICULTURAL CENSUS :  
PROGRESS REPORT 1**

Report # 33

by

**Suwandhi Sastrotaruno**

May, 2001



**Statistical Assistance to the Government of Indonesia (STAT) Project**  
USAID Contract No. PCE-I-00-99-00009-00

May 28, 2001

Preparations for 2003 Agricultural Census: Progress Report 1

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## **I. INTRODUCTION**

The 2003 Agricultural Census is the fifth census that will be conducted by the Government of the Republic of Indonesia. The first Agricultural Census was held in 1963, the second in 1973, the third in 1983 and the fourth was undertaken in 1993. The first four Census of Agriculture were based on the Law Number 6 of 1960 on Censuses, while the fifth Census of Agriculture will be based on Law Number 16 of 1997 on Statistics.

The Law Number 6 of 1960 on census were considered no longer capable of accommodating various developments, the community demands and the need of national and regional development. The development of science and technology were very different of the present day, therefore it's renewed with Law Number 16 of 1997.

The Law Number 6 of 1997 differentiates the type of statistics based on the purpose for which they are used and regulates the scope and function of conductors of statistical activities. Depending on the purpose for which they are used, statistics can be basic, sectoral or special. Badan Pusat Statistik (BPS -Statistics Indonesia) is responsible for basic statistics data collection. Basic statistics are statistics utilized for broad range of (both government and community) purposes, which have cross sectoral characteristics, are on a national and macro scale. When collecting basic statistics, BPS will obtain data by census, survey, compilation of administrative products and other method in keeping with developments in science and technology.

The issuance of Law Number 22 of 1999 on regional government, is giving the regional authority on all aspects except foreign policy, arm forces, justice, religion and other. This decentralization will need more data at regional level as compared with the national level. The census data is capable to supply "the small area statistics" as compared with survey by small sample only.

## **II. THE SCOPE AND COVERAGE**

The Census of Agriculture should cover all sector of agriculture, includes hunting and forestry in the whole region of Indonesia. The census could collect information on :

- a. Farm households
- b. Village Cooperative Units
- c. Agricultural Enterprises
- d. Village Potentials

The 1993 Agricultural Census on farm households was done through a listing of 20

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(twenty) percent of all common enumeration area. Special enumeration area such as jail, army/navy block etc were not included. For rural area, beside the basic data which were collected through household listing a 4 (four) percent sample census of the farm households using land were being surveyed. In this fifth Agricultural Census it is suggested that BPS could enumerate all block censuses, so that BPS will have information up to the smallest administrative units (i.e. villages). Those data will be very useful for regional planning purposes. From the census data BPS may construct a master sampling frame for subsequent agriculture survey by sub sector. If there is a budget constraint, BPS at least could list all concentrated area and sample of 20 percent of non concentrated areas. The measurement of concentration will be based on 2000 Population Census data. If the budgeted allocation is smaller than BPS need, I suggest of postponing the census undertaking.

BPS should discuss with the official of the Ministry of Cooperative and Ministry of Agriculture whether this data is still useful to evaluate the role of Village Cooperative Unit for farming culture.

Because the agricultural enterprises are collected completely every year, therefore the census activity will also emphasize for updating the directory.

The Village Potentials are always attached with any census undertaking. The data of Village Potentials are very useful to measure the development of each village. Some of the villages are classified as least developed, then some governmental budget will be allocated to improve the infrastructure in the village.

It should also be considered the data collection on of marketing of the agricultural products.

### **III. THE STEERING COMMITTEE AND THE TECHNICAL COMMITTEE**

To make the data could be useful for consumer BPS should establish a Steering Committee and a Technical Committee. The Steering Committee should consist of high ranking official from Ministry of Agriculture, Ministry of Forestry, Ministry of Cooperative, BPS, representative of regional office and from Statistical Society Forum. The Steering Committee will outline the broad data those are very useful for agricultural policy purposes. The technical committee consists of the lower rank official from Ministry of Agriculture, Ministry of Forestry, Ministry of Cooperative and BPS. The technical Committee will prepare the planning and it's implementation.

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#### IV. PLANNING STAGE

The 2003 Agricultural Census is planned as follows:

Year	Description	Schedule	Coverage
2001	Pilot -1 (Subang)	May	Updating map and questionnaire of listing
	Pilot - 2 (Sukabumi)	August	Updating map, questionnaire of listing and sectoral
	Pilot -3 (Sulawesi Selatan)	October	Updating map, questionnaire of listing, sectoral, Village Potentials
2002	General Rehearsal	June-July	
	Updating map	July-Aug	
	Village Potential enumeration	August	
	Updating agricultural enterprises	Sept-Oct	
2003	Listing enumeration	August	
	Sample of farm households		
	Post enumeration surveys	Sept	
	Processing of listing	Sept-	
2004	Processing of listing (cont.) and sample of farm households	Jan-	
	Analysis of listing	Jan-	
	Agr. Sub Sector enumeration	May-Jun	
	Census sample on Farm Income	August	
2005	Processing and analysis	Jan-	

Note :

1. Before the pilot, BPS should conduct the steering committee meeting.
2. BPS should prepare the worst alternative that could happen.
3. It should be added the enumeration of Village Cooperative Units
4. In the updating map BPS will check the Census Block boundaries and its contents

#### V. THE LISTING QUESTIONNAIRE AND SAMPLE SELECTED

The listing questionnaire should ask whether at least one member of the household engage in:

- paddy culture
- secondary crops cultivation,
- horticulture,
- estate crops culture,
- animal husbandry,
- wood cutting/cultivation,
- fish culture in ponds or brackish water,

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- fish capturing,
- hunting,
- working in agricultural services,
- working in agricultural processing and or
- agricultural employees.

It is emphasized in households which is eligible to be selected in the next step.

The listing questionnaire could be added with information of:

- number of trees (for horticulture, forestry or estate crops) or
- its area (for horticulture and estate crops),
- number of head for animal husbandry.

This data will be used as sampling frame for commodity sample surveys.

It is also suggested to ask question on :

- the land owned,
- land rented from others or
- rented to others,

so that it will be possible to measure the land controlled.

If the land controlled is less than 5000 square meter the household is classified as small scale farm households. The number of small scale farm household increased from 9.5 million households (1983) to 10.9 million households (1993).

It is suggested that BPS would like to select the household engage in paddy culture as one stage sampling selection after the first listing. This method will give a big sample size in estimating :

- area of irrigated land
- area of non irrigated land
- area of paddy planted
- area of paddy harvested
- paddy production.

Later on BPS can use it as sampling frame for paddy surveys.

Up to now paddy production is calculated by multiplying the area harvested by yield per hectare. The area harvested is based on the monthly report of sub district official of agricultural services. The report is based on their eye estimate. While the yield is based on the actual measurement of crop cutting survey by harvesting 2.5 x 2.5 square meters and weighing the result.

As the consequences of decentralization process, the agricultural services in sub district/kabupaten is not under Minister of Agriculture direct inspection anymore. The monthly report of agricultural production is almost stopped. The Minister of Agriculture encourage BPS to get the agricultural data and supply it to them. BPS should collect the data by households and

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enterprise approach.

The sub sectoral sample surveys will mostly be done at commodity level, at concentration area only and will be undertaken in 2004 and 2005. Because the time of surveys is quite far from the first listing, therefore it is suggested that "second listing" is necessary.

BPS should estimate the number of households of each commodities, where the estimate will be directed at kabupaten level only.

Sub sector	Number of sample	Comments
Horticulture	200 000	10 commodities x 20 districts x 1000 hh
Estate crops	300 000	10 commodities x 30 districts x 1000 hh
Animal husbandry	500 000	10 commodities x 50 districts x 1000 hh
Forestry	150 000	5 commodities x 30 districts x 1000 hh
Secondary crops	350 000	7 commodities x 50 districts x 1000 hh
fish culture	100 000	
Fish catching	200 000	
hunting	100 000	
Farm income	200 000	
Other (Agricultural services, agricultural processing etc)	200 000	

## VI. PROCESSING

It is suggested that BPS will not use the ICR (scanning) machines which was bought during 2000 Population Census undertaking. In the year of 2003 is considered obsolete. BPS will not use mark questionnaire, because BPS does not have OMR, therefore the processor will key in the data into the computer media.

Most of the processing will be done at regional level, but the central office should prepare the editing and coding procedure and the software for the validation and tabulation.

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Sub sector	Provincial Level	Kabupaten level
Horticulture		v
Estate crops		v
Animal husbandry	v	
Forestry		v
Secondary crops	v	
fish culture		v
Fish catching		v
hunting		v
Farm income	v	
Other (Agricultural services, agricultural processing etc)		v
First listing	v	

## VII. THE RESULT/ PUBLICATION

BPS should discuss the result and the tabulation of the 2003 Agricultural Census with the Ministry of Agriculture, Ministry of Cooperatives, Ministry of Forestry, National Planning Board and some of the regional office. BPS may discuss at Steering Committee and mostly with the Technical Committee. BPS has to deliver the data as quick as possible, to make the data useful for the agricultural policy at national and regional level.

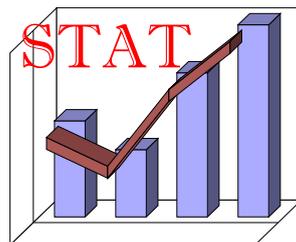
**PREPARATIONS  
FOR THE 2003 AGRICULTURAL CENSUS:  
PROGRESS REPORT 2**

Report # 39

by

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August, 2001



**Statistical Assistance to the Government of Indonesia (STAT) Project**  
USAID Contract No. PCE-I-00-99-00009-00

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## **I. INTRODUCTION**

This report discusses progress in the preparations of the Agriculture Census 2003. It covers the following issues:

- (i) coverage
- (ii) steering and technical committees
- (iii) time schedule
- (iv) methodology
- (v) designed questionnaires
- (vi) Up dating of map
- (vii) processing

It also discusses results of the first pilot conducted on 19-21 June 2001 in Subang district (West Java) and the planned second pilot in Sukabumi (West Java).

## **II. PROGRESS**

### **A. Coverage**

The Census of Agriculture is supposed to cover all sectors of agriculture, including hunting and forestry in all regions of Indonesia. The census should collect information on farming households, agricultural enterprises and village potential. Since data on agricultural enterprises is collected annually, one of the activities of the census is to update enterprise directories. In addition, discussions with officials from the Ministry of Agriculture resulted in an agreement that BPS would evaluate the role of Village Cooperative Units (VCU) for farming culture from the farmer side, but will not collect data from the institutional side. In other words, there will be no census of VCUs, unless there is a strong request from the Ministry of Cooperatives and Small and Medium Enterprises.

### **B. Steering And Technical Committees**

BPS had requested the appointment of high ranking officials from the Ministry of Agriculture, Ministry of Forestry and the National Planning Board (Bappenas) to establish a Steering Committee but the response was quite slow. The complete meeting for the steering and

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technical committees including representatives of user agencies did not take place until the first week of August 2001. In the past, two meetings had been conducted:

- the first included several mid-level officials from the Ministry of Agriculture, the Ministry of Forestry and the National Planning Board and was held in BPS on 30<sup>th</sup> May 2001. No high ranking officials were present.
- the second meeting was held at the Ministry of Agriculture on 13<sup>th</sup> June 2001 and was supposed to be chaired by the Minister of Agriculture, but the Minister could not attend. The meeting was chaired by the Inspector General and was attended by the Director General of Horticulture and some staff of the Ministry of Agriculture. Participants asked that the Agricultural Census 2003 cover information on agro-business.

The Technical Committee should determine the minimum threshold for considering people as engaged in agricultural activities, and the number of commodities to be collected for national and regional needs. We define nationally “ranked” (*ungulan*) commodities as commodities for which information will be collected nationally. The names of such commodities will be printed individually in the ST2003-L2. They are designed so that they can be summed up at the district, provincial and national levels. In contrast, blank spaces will left in the questionnaire for regionally “ranked” commodities to be filled by the specific district. The names of these commodities may differ from district to district.

Nationally ranked commodities for horticulture are “*durian*”, orange, mangoes, potatoes, red chili, cabbages, shallot, bananas and *manggis*, while for animal husbandry, horses and duck are considered as regionally ranked.

For national planning, the Ministry of Agriculture is still hoping that to get data at the national level for certain commodities, but is mostly concerned about adequately covering commodities at *kabupaten*/regional level.

### **C. Timetable**

The timetable for the 2003 Agricultural Census remains more or less as originally planned (see Table 1).

**Table 1**  
**Timetable for 2003 Agriculture Census**

<b>Year</b>	<b>Description</b>	<b>Schedule</b>	<b>Coverage</b>
2001	Pilot -1 (Subang) Pilot - 2 (Sukabumi) Pilot -3 (Sulawesi Selatan)	June August October	Updating map and questionnaire of listing Updating map, questionnaire of listing and sectoral Updating map, questionnaire of listing, sectoral, Village Potentials
2002	General Rehearsal Updating map Village Potential enumeration Updating agricultural enterprises	June-July July-Aug August Sept-Oct	
2003	Listing enumeration Sample of paddy households Post enumeration surveys Processing of listing	August Oct Oct Sept-	
2004	Processing of listing (cont.) and sample of farm households Analysis of listing Census sample on Farm Income	Jan- Jan- May-Jun	
2005	Sample of farm households (Cont) Processing and analysis	Jan-	

#### **D. Sampling Methodology**

It has been agreed that it would be too costly if the census uses as sampling unit farmers engaged in every commodity (i.e. the uni-purpose sampling design). A more practical sampling unit is farmers engaged in sub-sectors (i.e. the multi-purpose design by sub-sector), where the selection of census blocks will be based on the sub-sector concentration. The selected census blocks would be listed based on ranked commodities, but there will also be key questions on other commodities in the sub-sectors (at least information on area planted/productive trees and production). This will allow us to produce information on a particular sub-sector at the district, provincial and national levels.

The size of the sample for each commodity or sub-sector has not been decided yet, but for district estimates we need at least 300 households. We are considering at least 2-5 commodities (including nationally ranked) to be allocated for each district.

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## **E. Questionnaires**

### **1. Listing**

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The new listing questionnaire (ST2003-L1) asks whether at least one member of the household engages in agriculture (see Appendix A). The selection of households engaged in paddy culture will be based on L-1 (Block V column 6-8). If a member of the household is engaged in paddy culture in irrigated wet land, unirrigated wet land or dry land, the answer would be a “yes” but would not be coded “1”. It would be coded “ ”, because later on it will be given a sequencing number for the selection of the household. Therefore column 17 should be amended to say: “if either one of column (6)-(7) were or column (9) - (13) were coded 1, the household is considered as an agricultural household” and then will be enumerated with ST2003-L2.

### **2. Farming Household Information**

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The new questionnaire for enumerating the farming household is ST2003-L2 (see Appendix B). Detailed questions on commodities will only cover those that are nationally ranked, while the regionally ranked ones will be selected by regional offices and written as additional commodities to be collected.

The nationally ranked paddy and secondary crops are paddy, corn, soybean and cassava, while for horticulture they are *durian*, oranges, mangoes, potatoes, red chili, cabbages, shallot, *manggis* and bananas. Horses and ducks are considered as regionally ranked commodities for animal husbandry. There will need to be a discussion with officials from the Ministry of Forestry regarding which commodities to select as nationally ranked. Several lines will be allocated in each sub-sector to cover commodities added by regional offices.

### **3. Paddy**

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The questionnaire for collecting data on households engaged in paddy culture is ST2003-PADI (see Appendix C). It is divided into two parts:

1. The first part covers **core questions** (i.e. information about household members, household activity in the previous year, land controlled and its changes, area planted and harvested, production, usage of agricultural machinery and income).
2. The second part covers module questions (i.e. information about paddy

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culture during the last harvesting season and the post harvest activity)

The questionnaire still appears to be quite thick (8 pages). We need to evaluate whether answers are doubtful or whether questions are confusing, in which case the questions can be dropped. A few suggestions are provided in Table 2 for some of the questionnaire content.

**Table 2**  
**Notes on Paddy Questionnaire**

Location	Written	Suggestion
Block III.A Column (7)-(9)	No information on the reference period	One year ago
Block III.B item 1	Only Village Cooperative Unit/ Farm Cooperative	Any cooperative will be better
Block III B item 5	Type of credit	Check with officials from the Ministry of Agriculture which one is still valid
Block VIII what type of paddy selected	Type of paddy selected	Should be "....." to write down
Block VIII item 9. B	Is the fertilizer used "fit"	It should have standard use for comparing
Block VIII item 16	Number of people involved in paddy culture selected	Could be answered by item 15

#### **4. Secondary Crops**

The questionnaire for collecting data on households engaged in secondary crop culture is ST2003-PALAWJA (see Appendix D). Like the ST2003-PADI, it is divided into two parts and the contents of both are similar. Also, like the ST2003-PADI, it appears to be quite thick (8 pages). We need to evaluate whether answers are doubtful or whether questions are confusing, in which case the questions can be dropped. A few suggestions are provided in Table 3 for some of the questionnaire content.

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**Table 3**  
**Notes on Secondary Crop Questionnaire**

<b>Location</b>	<b>Written</b>	<b>Suggestion</b>
Block III.A Column (7)-(9)	No information on the reference period	One year ago
Block III.B item 1	Only Village Cooperative Unit/ Farm Cooperative	Any cooperative will be better
Block III B item 5	Type of credit	Check with the ministry of agriculture official, which one is still valid
Block VIII what type of paddy selected	Type of paddy selected	Should be "....." to write down
Block VIII item 9. B	Is the fertilizer used "fit"	It should have standard use for comparing
Block VIII item 16	Number of people involved in paddy culture selected	Could be answered by item 15

## **5. Horticulture**

The questionnaire for collecting data on households engaged in horticulture crop culture is ST2003-HORTI (see Appendix E). The questionnaire is also similar in content to the ST2003-PADI. It is still quite thick (10 pages). We need to evaluate whether answers are doubtful or whether questions are confusing, in which case the questions can be dropped. A few suggestions are provided in Table 4 for some of the questionnaire content.

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**Table 4**  
**Notes on Horticulture Questionnaire**

<b>Location</b>	<b>Written</b>	<b>Suggestion</b>
Block III.A Column (7)	No information on the reference period and has to write three codes for horticulture	The time of reference for seasonal crops is at the time of enumeration, while for annual crops is one year ago. Should apply to only crops exceeding the threshold for inclusion.
Block III.A column (8)	No information about the time reference	One week ago
Block IIIB item 4	Type of credit	Check with officials of the Ministry of Agriculture which one is still valid
Block IIIB item 8		It should be written as item 5 (direct question)
Heading of Block IV	There is time reference ("at the time of enumeration")	Should be deleted
Block IV A Land controlled	No time of reference	Should be written "at the time of enumeration"
Block IV B The use of land	No time of reference	The time of reference for seasonal crops is at the time of enumeration, while for annual crops is one year ago.
Block VIII item 7 and 8 Block IX item 7 and 8	Questioning of "trade mark" is to detail	should be deleted
Block VIII item 9 a and e	Mutation of crops "at the beginning of enumeration" and "at the end of enumeration"	Change "a. As of one year ago" and "e. At the time of enumeration"
Block IX item 3	Distance between trees	Too detailed
Block X item 5 c	"own processing"	Confusing. Difficult to differentiate between item b "own consumption" and item c "own processing"

## **F. Map Updating**

The total number of census blocks is 593,448, where 58,482 are occupied by less than 60 households and 89,272 are occupied by more than 160 households. The program for 2002 will attempt to merge census blocks with less than 60 households and split those with more than 160 households in order to spread evenly the burden on enumerators. Also, some errors in drawing boundaries (or making legends) were found in maps constructed during the Population Census 2000. My recommendation, therefore, is that the updating of maps should incorporate corrected boundaries of census blocks, so that the possibility of double counting or missing households during enumeration could be minimized.

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### **G. Processing**

Processing of the ST2003-LKOC, which will cover information on ST2003-L1 and ST2003-L2, is expected to be done manually. If computers are used, then results can be produced more quickly.

Most of the processing will be done at the regional/district level, but the BPS central office should prepare editing and coding procedures and the software for validation and tabulation. BPS should also try to optimize the use of scanning machines. BPS will, therefore, need to modify the ST2003-HORTI questionnaire to make it scannable, while the other questionnaires will be entered manually, since the contents may be too difficult to make them scannable.

## **III. PILOTS**

### **A. First**

The first pilot was conducted in Subang on 19-21 June 2001. Its main objective was to test the questionnaire, i.e. to determine whether it results in complete coverage. Questionnaires tested included those for household listing (ST2003-L1, ST2003-L2 and ST-2003-LKOC) and for households in sub-sectors (paddy, secondary crops, estate crops, forestry and animal husbandry).<sup>1</sup> The major findings are summarized in Table 5:

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<sup>1</sup> A pilot was also conducted for updating the census block map.

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**Table 5**  
**Findings Regarding First Pilot**

Issue	Finding	Suggestion
Time of enumeration	It was targeted that the enumeration could be done during morning, noon and afternoon but it was difficult because some of them were working in the field	Inform the household in the area that the enumerator will come at time convenient to the respondent, or respondent could assign one of the household members to answer all questions
Communication	The regional language is difficult for some interviewer	Use local guide for translation
Time reference	For annual crops, animal husbandry we use "at the time of enumeration", while for households engaged in seasonal crops we should use the previous season (except if he is willing to quit)	For "broiler" we should use the number of chicken broilers for the last round.
Coverage	What happens with the area/number of trees/number of heads that belong to the household who is not engaged in agriculture?	That will not be enumerated and considered quite small (small survey could be considered)
Land controlled	Most of the respondents only reported the arable land	Be careful during the enumeration or write down in the questionnaire that it should include land for housing etc.
ST2003-L1	The letter size was too small	Increase letter size
ST2003-L2	The time of reference for each block should be written	Agree, because the enumerator will read the question
ST2003-L2	Threshold for inclusion in agriculture was different between crops	Should be discussed with officials responsible, and could be determined by the monetary value of output produced.
ST2003-L2	Also covers households engaged in "small-scale enterprises"	There is a note for households belonging to this group
Sub-sectoral questionnaire	Structural arrangements are still quite different	Try to standardize by dividing into a core and a module
Questionnaire used for second pilot	Some of the sub-sectors will be enumerated in 2005	For second and third pilots, use only questionnaire for paddy, secondary crops and horticulture to be conducted in 2003 and 2004.

## **B. Second**

The second Pilot is being conducted in Sukabumi, West Jawa between 8 and 31 August 2001. The objective is to test the revised questionnaires for listing (ST2003-L1 and ST2003-L2) and sub-sectors (ST2003-Paddy, ST2003-Palawija, ST2003-Horti). Field operations will be conducted by the regional office of Sukabumi, where enumerators and supervisors will be

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recruited from the sub-district of Cisaat. Also piloted is the organization of the census, including updating of the census block map. The schedule is provided in Table 6.

**Table 6**  
**Timetable for Second Pilot**

Activity	Date
1. Enumerator training	8-10 August
2. Distribution of documents	8-10 August
3. Field operation: A. Copying and correcting block census map B. Listing using ST2003-L1 and ST2003-L2 C. Supervising and manual checking	13-19 August 20-27 August 20-29 August
4. Sending the documents to sub district statistical official	25-31 August
5. Sending the documents to BPS	1-8 September

The sub-sectoral questionnaires used are limited to paddy, secondary crops and horticulture, which will be used for data collection in 2003-2004, while the other sub-sectoral data will be collected in 2005.

**APPENDIX A**  
**QUESTIONNAIRE FOR LISTING**

ST2003-L1

REPUBLIC OF INDONESIA

**2003 AGRICULTURAL CENSUS**

BUILDING AND HOUSEHOLD LISTING

*Confidential*

Number set of ... from ... sets

I. LOCATION IDENTIFICATION	
1. Province	
2. District/Municipality	
3. Sub district	
4. Village	
5. Village classification	Urban – 1 Rural – 2
6. Number of census block	
7. Local environmental unit	

II. SUMMARY	
1. Number of Households registered in Population Census questionnaire SP2000-L1 (Fulfill by district/municipality office)	
2. Number of household listed (Block IV column (4) the last number of the last pages)	
3. Number of household engage in horticulture (Sum of Block V column (17) item c on the last page.	

III. OFFICIAL INFORMATION		
Description	Enumerator	Supervisor
1. Name of the official		
2. Identification number		
3. Date of enumeration/ supervision		
4. Signature		



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**APPENDIX B**  
**QUESTIONNAIRE FOR HOUSEHOLD INFORMATION**

ST2003-L2

REPUBLIC OF INDONESIA  
**2003 AGRICULTURAL CENSUS**

DETAIL INFORMATION ON AGRICULTURAL HOUSEHOLD

*Confidential*

Province	District	Sub district	Village	Block census number	Physical building number	Census building number	Household number

Name of the head of the household .....

I. LAND CONTROLLED DURING ENUMERATION	
Description (1)	Land area (square meter) (2)
1. Area of land owned	
2. Area of land from others	
3. Area of land on others	
4. Area of land controlled	
5. From area of land controlled, fill in the area of "wet land/sawah"	
6. From area of land controlled, fill in the area used for agricultural	

II. INFORMATION OF HOUSEHOLD ENGAGED IN PADDY AND SECONDARY CROPS CULTIVATION				
Fill in area of paddy and secondary crops cultivation which is controlled by the households				
Type of crops (1)	Code (2)	Units (3)	Area of crops (4)	Number of farmer (5)
1. Paddy	101	M2		
2. Secondary crops	102	M2		
a. Corn	103	M2		
b. Soya bean	104	M2		
c. Peanut	105	M2		
d. Mung beans	106	M2		
e. Cassava	107	M2		
f. Sweet Potatoes				
i. other	199			

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III. INFORMATION OF HOUSEHOLD ENGAGED IN HORTICULTURE							
A. Fill in number of trees/bundles/area of horticulture (vegetables, fruits, ornamental and herbal trees) which is controlled by households							
Type of crops	Code	Units	Number of trees/area of crops Controlled	For annual crops, fill in number of productive crops	Minimal Limit Of engagement	For seasonal crops is that column (4) > (6) while for annual crops is that column (5) > (6) yes - 1 no - 2	Number of farmers
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
1. Durian	201	Trees			10		
2. Oranges	202	Trees			25		
3. Mangos	203	Trees			5		
4. Pine apple	204	Trees			1000		
5. Papaya	205	Trees			35		
6. Bananas	206	Trees			40		
7. Rambutan	207	Trees			15		
8. Potatoes	208	M2			500		
9. Long bean	209	M2			250		
10. Red chili	210	M2			750		
11. Cabbage	211	M2			300		
12. Tomatoes	212	M2			1250		
13. Cucumber	213	M2			250		
14. Spinach	214	M2			100		
15. Red onion	215	M2			600		
16. Roses	216	M2			386		
17. Anggrek	217	M2			7		
18. Melati	218	M2			17357		
19. Jahe	219	bundle			100		
20. Kunyit	220	bundle			150		
Other							
B. If all answers in column (7) are coded 2, is that the total activities beyond the limit ? yes - 1 no - 2							
C. Is that the household could be considered as horticulture household yes - 1 no - 2							

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IV. INFORMATION OF HOUSEHOLD ENGAGED IN ESTATE							
A. Fill in number of trees/bundles/area of estate crops, which is controlled by households							
Type of crops	Code	Units	Number of trees/area of crops Controlled	For annual crops, fill in number of productive crops	Minimal Limit Of engagement	For seasonal crops is that column (4) > (6) while for annual crops is that column (5) > (6) yes - 1 no - 2	Number of farmers
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
1. Palm	301	Trees			25		
2. Coconut	302	Trees			25		
3. Rubber	303	Trees			250		
4. Clove	304	Trees			10		
5. Jambu mete	305	Trees			25		
6. Coffee	306	Trees			125		
7. Cacao	307	Trees			155		
8. Pepper	308	bundle			100		
9. Tobacco	309	M2			500		
10. Tea	310	M2			500		
11. Sugar cane	311	M2			500		
12. Kapas	312	M2			500		
Other							
B. If all answers in column (7) are coded 2, is that the total activities beyond the limit ? yes - 1 no - 2							
C. Is that the household could be considered as horticulture household yes - 1 no - 2							

V. INFORMATION OF HOUSEHOLD ENGAGED IN FOREST CULTIVATION					
A. Fill in number of trees/bundles/area of trees, which is controlled by households					
Type of trees	Code	Units	Number of trees/bundle of crops Controlled	Number of trees/bundle That could be used	Is the number at column (5) > 40 Yes - 1 No. 2
(1)	(2)	(3)	(4)	(5)	(6)
1. Sengon	401	Trees			
2. Sungkai	402	Trees			
3. Rattan	403	Trees			
4. Kaliandra	404	Trees			
5. Turi	405	Trees			
6. Teak	406	Trees			
7. Pinus	407	Trees			
8. Akasia	408	Trees			
9. Mahoni	409	Trees			
10. Bamboo	410	bundle			
Other					

VI. INFORMATION OF HOUSEHOLD ENGAGED IN ANIMAL HUSBANDRY							
A. Fill in number of animal husbandry, which is controlled by households							
Type of animal	Code	Units	Number of animal husbandry Controlled	For pig fill in number of pig more than 2 month, while poultry which is more than one month	Minimal Limit Of engagement	For pigs is that column (4) > (6) while for poultry is that column (5) > (6) yes -1 no - 2	Number of farmers
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
<b>A. Big animal</b>							
1. Milk cow	501	head			1		
2. Cow	502	head			2		
3. Buffalo	503	head			2		
4. Horse	504	head			2		
<b>B. Small animal</b>							
1. Pig	505	head			3		
2. Goat	506	head			6		
3. Sheep	507	head			6		
<b>C. Poultry</b>							
1. Race chick	508	head			30		
2. Layer	509	head			12		
3. Cutler	510	head			12		
4. Duck	511	head			12		
Other	220						
B. If all answers in column (7) are coded 2, is that the total activities beyond the limit? Yes -1 No -2							
C. Is that the household could be considered as animal husbandry household Yes -1 No -2							

VII. INFORMATION ABOUT THE HOUSEHOLD ACTIVITY	
Is that any member of household (including the head of the household) engage in:	
1. Fish culture in irrigated land ? Yes - 1 No -2 If the answer is "yes" fill in the area of irrigated land used ..... m2	
2. Fish culture in water ponds ? Yes - 1 No - 2 If the answer is "yes" fill in the area of ponds ..... m2	
3. Other culture in the sea ? Yes - 1 No - 2	
4. Other culture in the general water ? Yes - 1 No - 2	
5. Catching fish at sea ? Yes - 1 No - 2	
6. Catching fish at general water ? Yes - 1 No - 2	
7. Picking forest product or hunting ? Yes - 1 No - 2	
8. Agricultural services ? Yes - 1 No - 2	
9. High manager ? Yes - 1 No - 2	
10. processing of agricultural product ? Yes - 1 No - 2	
11. As agricultural labor ? yes - 1 No - 2	

**APPENDIX C**  
**QUESTIONNAIRE FOR PADDY**

ST2003-PADI

REPUBLIC OF INDONESIA

**2003 AGRICULTURAL CENSUS**

CENSUS SAMPLE OF  
HOUSEHOLD ENGAGE IN PADDY CULTURE

*Confidential**Type of crop selected .....*

I. LOCATION IDENTIFICATION	
1. Province	
2. District/Municipality	
3. Sub district	
4. Village	
5. Village classification	Urban – 1 Rural – 2
6. Serial Number of Census Block	
7. Sample Serial Code	
8. Serial Number of Physical building	
9. Serial Number of Census Building	
10. Serial Number of household	
11. Sample serial Number	
12. Name the head of the households	

II. OFFICIAL INFORMATION		
Description	Enumerator	Supervisor
1. Name of the official		
2. Identification number		
3. Date of enumeration/ supervision		
4. Signature		

Length of enumeration ..... minutes



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III.B. GENERAL INFORMATION AROUND ONE YEAR AGO			
1. Is there any member of the households (including the head of the households) being member of any cooperatives? Yes -1 No - 2 (direct to item 4)			
2. Has he/she got any services from the cooperatives? Yes-1 No - 2			
3. If item 2 was coded 1, what are the type of services?			
Money credit	1	Selling product	8
Input credit	2	Other	16
Output processing	4		
4. Has she/he got any credit for paddy cultivation? Yes -1 No -2 (direct to item 8)			
5. If item 4 was coded 1, the type of credit?			
Food security credit	1	Other bank credit	16
General credit	2	Private credit	32
Village Cooperative credit	4	Other	64
Other cooperative credit	8		
6. The percentage use of the credit for :			
a. Land processing			
b. Seed			
c. Fertilizer			
d. Insecticide etc			
e. Labor			
d. Other			
7. a. Has the credit been wholly paid? Yes - 1 No - 2			
b. Reason of not wholly paid yet?			
Harvest failure	1	Price fall	3
Still time to pay	2	Other	4
8. If no credit received, the main reason is:			
No need	1	No collateral	5
Don't know the procedure	2	The process complicated	6
Bank location is quite far	3		
High interest rate	4	Other	7
9. Is there any help other than credit? Yes -1 No- 2			
If the answer is "yes" the type of aid?			
Seed	1	Agricultural Machinery	8
Fertilizer	2	Other	16
Insecticide etc.	4		
10. a. Has any member of the household got any guidance or counseling?			
Yes -1 No - 2			
b. If "yes" what is the type:			
Technical of paddy culture	1	Paddy processing	4
Post harvest	2	Other	5
Paddy marketing	3		
If "No" is there any reason?			
No guidance and counseling	1	Location is quite far	8
No need	2	Other	16
The material un match	4		
11. Is there any member of household being member of Farm Group?			
Yes -1 No -2			
The activity of the farm groups .....			
12. During waiting for harvest, what is the type of worked done the member of the household?			
Trading	1	Services	8
Agricultural Labor	2	Formal work	16
Labor on non agriculture	4	No work	0

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IV. LAND CONTROLLED AND CONVERSION				
1. Land area at the time of enumeration (square meter)				
Land status	Arable land		Non agriculture land	Total
	Wet land	Dry land		
(1)	(2)	(3)	(4)	(5)
a. Land owned				
b. Land from other party				
c. Land at other party				
d. Land controlled (a+b-c)				
e. Number of field controlled				
2. Wet land controlled by type of irrigation				
a. technical				
b. non technical				
c. no irrigation				
3. Rotation of commodity planted in the main field ?				
Area of main field (square meter)		Commodity rotation		
(1)	Sep-Dec 2000	Jan-Apr 2001	May-Aug 2001	
	(2)	(3)	(4)	
4. a. Were you selling agricultural land five years ago? Yes - 1 No - 2 (direct to item 5)				
b. Reason of selling land				
c. The land sold was used for Agriculture Non agriculture				
5. For the land controlled by the household, for 5 years is there any conversion ? Yes - 1 No - 2				
6. Type of conversion				
a. Wet land are converted to Agricultural land but non irrigated Not agricultural land				
b. Another dry land are converted into Wet land Non agricultural land				
c. Non agricultural land are converted into Wet land Agricultural land but non irrigated				

V. TYPE OF PADDY CULTIVATED FOR A YEAR AGO				
Type of paddy	Area planted (m2)	Area harvested (m2)	Production (kg- husk during harvest)	Value (Rp)
(1)	(2)	(3)	(4)	(5)

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VI. AGRICULTURAL MACHINERY CONTROLLED AND USED			
Type of agricultural machinery	Do you use any of the agricultural machinery  Yes - 1 No - 2	If column (3) is coded (1), the machinery used is: Owned -1 Cooperatives owned -2 Farm group owned -4 Other -8	If column (3) is coded (1) how many owned during the enumeration dates (units)
(1)	(2)	(3)	(4)
1. For land processing a. hand tractor two tires b. big tractor four tires			
2. Planting tool a. Jabber/Seeder b. Transplanter			
3. Sickle for harvesting			
4. Hidropumps			
5. For killing pest a. Hand sprayer b. Knapsack/Skid power sprayer/swing fog c. Rat blower			
6. Paddy processing a. Power thresher b. Pedal thresher c. Dryer			

VIII. INCOME/RECEIPT OF HOUSEHOLD ONE YEAR AGO			
Classification	Owned Risk (thousand rupiah)	As labor (thousand rupiah)	Total (thousand rupiah)
(1)	(2)	(3)	(4)
1. Agriculture a. paddy b. secondary crops			
2. Other agriculture			
3. Trade			
4. Manufacturing industry			
5. Other sector			
6. Other income (pension, rent, contract etc)			
7. Other receipt (borrowing, inheritance, pawning, transfer etc.)			
8. Total income/receipt (Item 1+2+3+4+5+6+7)			

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VIII. INFORMATION ABOUT ENGAGEMENT IN PADDY CULTURE SELECTED AT THE LAST HARVEST			
1. Area harvested (square meter)			
2. Production (kg – paddy at harvest)			
3. Processing of land:			
Using big tractors	1	Animal	4
Hand tractors	2	Other	8
4. Planting type/style			
Single commodity	1	“tumpang sari”	2
		mixed crops	3
5. Distance during planting (cm x cm)			
6. Seed source			
Owned production	1	Buying	2
7. a. If item (6) is coded (2), seed used			
Blue Labeled	1	Pink Labeled	2
		Not labeled	3
b. Seed planted is			
First generation	1	Third generation	3
Second generation	2	Fourth or more	4
c. If using “labeled seed”, generally is planted up to			
Always labeled	1	Second generation	3
First generation	2	Third or more	4
8. Amount of seed used (kg)			
9. a. Sum of Fertilizer used:			
(i) Urea (kg)			
(ii) TSP (kg)			
(iii) KCL (kg)			
(iv) ZA (kg)			
(v) Stimulant (cc)			
(vi) Other inorganic chemical (kg)			
(vii) Pen fertilizer			
(viii) Compost (organic fertilizer)			
b. Is that the fertilizer used “fit” ?			
Yes -1 (direct to item 10) No – 2			
c. If the dosage of the fertilizer does not fit, what is the main reason			
Price of fertilizer is expensive	1	Difficult to get fertilizers	3
Not profitable	2	Other	4
10. a. Is there any disturbance of plant disease?			
Yes -1 No – 2 (direct to item 11)			
b. If item 10 (a) is coded “1”, write down the type .....			
c. Area damage by pest ( square meter)			
d. Is there any action for pest control ? Yes - 1(direct to item 11) No – 2			
e. Types of pest control			
Chemical (pesticide)	1	Biological	3
Mechanical	2	Other	4
f. Pest control technique was got from			
Guidance	1	Mass media	2
		Other	
g. Reason of no pest control?			
The pesticide is expensive	1	Difficult to find pesticide	3
Not profitable	2	Other	4

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11. a. The main harvesting style								
Owned harvest		1 (direct to item 12)			Sold during harvest		2	
Sold before harvest		3						
b. If it is sold during/before harvest. What is the main reason?								
More profitable		1		In a great need		3		
Payment of debt		2		Other		4		
12. If item 11 is coded 1, the main harvesting type is done by								
Farmer and his/her relatives		1		"Arisan" of harvest labor		3		
Paid harvest labor		2		"bawon" of harvest labor		4		
13. Main harvesting tool?								
Jagged/serrated sickle		1		Ani-ani		3		
Ordinary sickle		2		Other		4		
14. Harvesting situation								
Very good		1		Less		3		
Normal		2		Damaged		4		
15. Number of employment for selected paddy								
Type of work	Paid worker				Unpaid worker			
	Male		Female		Male		Female	
	People	Man-days	People	Man-days	People	Man-days	People	Man-days
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
a. Land processing								
b. Planting								
c. Fertilizing								
d. Pest control								
e. Cleaning								
f. Harvesting								
g. Other								
h. Total								
16. Number of man which is involved in selected paddy culture								
Paid worker				Unpaid worker				
Male		Female		Male		Female		
(1)		(2)		(3)		(4)		

IX. POST HARVEST INFORMATION FOR SELECTED PADDY AT THE LAST SEASON									
1. Place of husking									
In the field		1		Other		3			
At the house		2		No husking		4 (direct to item 3)			
2. Type of husking									
By legs		1		By beating		3			
By thrashing		2		by machines		4			
3. Place of drying									
On the field		1		On the house		2		Other	3
4. Main type of drying									
On the land without cover		1		Dryer		4			
On the land with cover		2		Other		5			
Cement floor		3							

5. Main mode of transportation					
Human	1	Vehicle of three tires or more			5
Animal	2	Boat in the river			6
Non motorize vehicle	3	Other			7
Motor cycle	4				
6. Main packing					
Gunny sack	1	basket	3	None	5
Plastic sack	2	Other	4		
7. Usage of paddy harvest (%)					
a. Owned consumption					
b. Stored					
c. Sold					
d. Other					
8. If item 7 c is available, the selling					
Non Village Cooperative units	1	Market	3	Other	5
Village Cooperative Unit	2	Trader	4		
9. Reason of selling using method of 8					
Price is higher	1	Easier	2	Other	3
10. Main type of production is sold in the form of:					
Paddy during harvest	1	Paddy dried	2	Rice form	3
11. a. Is there any problem of marketing? Yes -1 No - 2					
b. If the answer is "yes", what is the main reason?					
Limited of transport mode	1	Quality is low	2	Excess of production	3
Price is low	4	Other	5		

IX. NOTES

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**APPENDIX D**  
**QUESTIONNAIRE FOR SECONDARY CROPS**

ST2003-PALAWIJA

REPUBLIC OF INDONESIA

**2003 AGRICULTURAL CENSUS**

CENSUS SAMPLE OF  
HOUSEHOLD ENGAGE IN SECONDARY CROPS

*Confidential**Type of crop selected .....*

I. LOCATION IDENTIFICATION	
1. Province	
2. District/Municipality	
3. Sub district	
4. Village	
5. Village classification	Urban – 1    Rural – 2
6. Serial Number of Census Block	
7. Sample Serial Code	
8. Serial Number of Physical building	
9. Serial Number of Census Building	
10. Serial Number of household	
11. Sample serial Number	
12. Name the head of the households	

II. OFFICIAL INFORMATION		
Description	Enumerator	Supervisor
1. Name of the official		
2. Identification number		
3. Date of enumeration/ supervision		
4. Signature		

Length of enumeration ..... minutes



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III.B. GENERAL INFORMATION AROUND ONE YEAR AGO			
1. Is there any member of the households (including the head of the households) being member of any cooperatives? Yes -1 No - 2 (direct to item 4)			
2. Has he/she got any services from the cooperatives? Yes-1 No - 2			
3. If item 2 was coded 1, what are the type of services?			
Money credit	1	Selling product	8
Input credit	2	Other	16
Output processing	4		
4. Has she/he got any credit for secondary crops cultivation? Yes -1 No -2 (direct to item 8)			
5. If item 4 was coded 1, the type of credit?			
Food security credit	1	Other bank credit	16
General credit	2	Private credit	32
Village Cooperative credit	4	Other	64
Other cooperative credit	8		
6. The percentage use of the credit for:			
Land processing			
Seed			
Fertilizer			
Insecticide etc			
Labor			
Other			
7. a. Has the credit been wholly paid? Yes - 1 No - 2			
b. Reason of not wholly paid yet?			
Harvest failure	1	Price fall	3
Still time to pay	2	Other	4
8. If no credit received, the main reason is:			
No need	1	No collateral	5
Don't know the procedure	2	The process complicated	6
Bank location is quite far	3		
High interest rate	4	Other	7
9. a. Is there any help, other than credit or capital? Yes - 1 No - 2			
b. If the answer is "yes" help that was got:			
Seed	1	Agricultural Machinery	8
Fertilizer	2	Other	16
Insecticide etc.	4		
10. a. Has any member of the household got any guidance or counseling? Yes -1 No - 2			
b. If "yes" what is the type:			
Technical of secondary crops culture	1	Secondary crops processing	8
Post harvest	2	Other	16
Secondary crops marketing	4		
c. If "No" is there any reason?			
No guidance and counseling	1	Location is quite far	8
No need	2	Other	16
The material un match	4		
11. a. Is there any member of household being member of Farm Group? Yes -1 No - 2			
b. The farm group activity .....			
12. During season waiting for working in agriculture, what is she/he doing?			
Trading	1	Servicing	8
Labor in agriculture	2	Other	16
Industrial labor	4	None	0

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IV. LAND CONTROLLED AND CONVERSION				
1. Land area at the time of enumeration (square meter)				
Land status	Arable land		Non agriculture land	Total
	Wet land	Dry land		
(1)	(2)	(3)	(4)	(5)
a. Land owned				
b. Land from other party				
c. Land at other party				
d. Land controlled (a+b-c)				
e. Number of field controlled				
2. Wet land controlled by type of irrigation				
a. technical				
b. non technical				
c. no irrigation				
3. Rotation of commodity planted in the main field?				
Area of main field (square meter)	Commodity rotation			
	Sep-Dec 2000	Jan-Apr 2001	May-Aus 2001	
(1)	(2)	(3)	(4)	
4. a. Were you selling agricultural land five years ago? Yes – 1 No – 2 (direct to item 5)				
b. Reason of selling the agricultural land				
b. The land sold was used for				
Agriculture				
Non agriculture				
5. For the land controlled by the household, for 5 years is there any conversion?				
Yes - 1 No -2				
6. Type of conversion				
a. Wet land are converted to				
Agricultural land but non irrigated				
Not agricultural land				
b. another dry land are converted into				
Wet land				
Non agricultural land				
c. Non agricultural land are converted into				
Wet land				
Agricultural land but non irrigated				

V. TYPE OF SECONDARY CROPS CULTIVATED FOR A YEAR AGO				
Type of secondary crops	Area planted (m2)	Area harvested (m2)	Production (kg )	Value (Rp)
(1)	(2)	(3)	(4)	(5)

Secondary crops commodity code

Corn 1 Soybean 2 Peanut 3 Green bean 4 Cassava 5 Sweet potatoes 6

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Preparation for 2003 Agricultural Census: Progress Report 2

VI. AGRICULTURAL MACHINERY CONTROLLED AND USED			
Type of agricultural machinery	Do you use any of the agricultural machinery	If column (3) is coded (1), the machinery used is: Owned -1 Cooperatives owned -2 Farm group owned -3 Other -4	If column (3) is coded (1) how many owned during the enumeration dates
(1)	(2)	(3)	(4)
1. For land processing a. hand tractor two tires b. big tractor four tires			
2. Planting tool a. Jabber/Seeder b. Transplanter			
3. Sickle for harvesting			
4. Hidropumps			
5. For killing pest a. Hand sprayer b. Knapsack/Skid power sprayer/swing fog c. Rat blower			
6. Secondary crops processing a. Power thresher b. Pedal Thresher c. Corn thresher b. Dryer			

VIII. INCOME/RECEIPT OF HOUSEHOLD ONE YEAR AGO			
Classification	Owned Risk (thousand rupiah)	As labor (thousand rupiah)	Total (thousand rupiah)
(1)	(2)	(3)	(4)
1. Agriculture a. Paddy b. secondary crops			
2. Other agriculture			
3. Trade			
4. Manufacturing industry			
5. Other sector			
6. Other income (pension, rent, contract etc)			
7. Other receipt (borrowing, inheritance, pawning, transfer etc.)			
8. Total income/receipt (Item 1+2+3+4+5+6+7)			

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VIII. INFORMATION ABOUT ENGAGEMENT IN SECONDARY CROPS CULTURE SELECTED AT THE LAST SEASON				
1. Area harvested (square meter)				
2. Production (kg – secondary crops at harvest)				
3. Processing of land :				
Using big tractors	1	Animal		4
Hand tractors	2	Other		8
4. Planting type/style				
Single commodity	-1	“tumpang sari”	-2	mixed crops 3
5. Distance during planting (cm x cm)				
6. Seed source				
Owned production	1	Buying		2
7. a. If item (6) is coded (2), seed used				
Labeled	1	Not labeled		2
b. Seed used for soybean, peanut, green bean)				
Prime	1	local		
c. Seed type of corn? Hybrid 1 Composite 2 Local 3				
8. Amount of seed used (kg)				
9. a. Fertilizer used:				
(i) Urea (kg)				
(ii) SP (kg)				
(iii) KCL (kg)				
(iv) ZA (kg)				
(v) Stimulant (cc)				
(vi) Other inorganic chemical (kg)				
(vii) Pen fertilizer				
(viii) Compost (organic fertilizer)				
b. Is that the fertilizer used “fit” ?				
Yes	-1	(direct to item 10)	No	- 2
c. If the dosage of the fertilizer does not fit, what is the main reason				
Price of fertilizer is expensive	1	Difficult to get fertilizers		3
Not profitable	2	Other		4
10. a. Is there any disturbance of plant disease?				
Yes	-1	No	- 2	(direct to item 11)
b. If item 10 (a) is coded “1”, write down main the type .....				
c. Area damage by pest ( square meter)				
d. Is there any action for pest control ? Yes – 1 No – 2(direct to item 10 g)				
e. Type of pest control				
Chemical type	1	Biological		3
Mechanical	2	Other		4
f. Pest control techniques?				
Guidance	1	Mass media	2	Other 3
g. Reason of no pest control?				
The pesticide is expensive	1	Difficult to find pesticide		3
Not profitable	2	Other		4
12. a. The main harvesting style				
Owned harvest	1	(direct to item 12)	Sold during harvest	-2
Sold before harvest	3			
b. If it is sold during/before harvest. What is the main reason?				
More profitable	1	In a great need		3
Payment of debt	2	Other		4
13. Result of harvest?				
Very good	1	Less		3
Normal	2	Fail		4

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14. Number of employment used								
Type of work	Paid worker				Unpaid worker			
	Male		Female		Male		Female	
	people	man days	People	Man days	People	Man days	People	Man days
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
a. Land processing								
b. Planting								
c. Fertilizing								
d. Pest control								
e. Cleaning								
f. Harvesting								
g. Other								
h. total								

15. Number of people involved in the secondary crops selected			
Paid worker		Unpaid worker	
Male	Female	Male	Female
(1)	(2)	(3)	(4)

IX. POST HARVEST INFORMATION FOR SELECTED SECONDARY CROPS AT THE LAST SEASON					
1. Place of husking					
In the field	1	Other	3		
At the house	2	No husking	4 (direct to item 3)		
2. Type of husking					
By legs	1	By beating	3		
By thrashing	2	by machines	4		
3. Place of drying					
On the field	1	On the house	2	Other	3
4. Main type of drying					
On the land without cover	1	Dryer	4		
On the land with cover	2	Other	5		
Cement floor	3				
5. Main mode of transportation					
Human	1	Vehicle of three tires or more	5		
Animal	2	Boat in the river	6		
Non motorize vehicle	3	Other	7		
Motor cycle	4				
6. Main packing					
Gunny sack	1	basket	3	None	5
Plastic sack	2	Other	4		
7. Usage of secondary crops harvest (%)					
a. Owned consumption					
b. Stored					
c. Sold					
d. Other					
8. If item 7 c is available, the selling					
Non Village Cooperative units	1	Market	3	Other	5
Village Cooperative Unit	2	Collector	4		

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9. Reason of selling using method of 8					
Price is higher	1	Easier	2		
Other	3				
10. a. Is there any problem of marketing? Yes -1 No - 2					
b. If the answer is "yes", what is the main reason?					
Limited of transport mode	1	Quality is low	2	Excess of production	3
Price is low	4	Other	5		
11. Is there any further processing? yes -1 No -2					

IX. NOTES

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**APPENDIX E**  
**QUESTIONNAIRE FOR HORTICULTURE**

ST2003-HORTI

REPUBLIC OF INDONESIA

**2003 AGRICULTURAL CENSUS**

**CENSUS SAMPLE OF  
HOUSEHOLD ENGAGE IN HORTICULTURE**

*Confidential**Type of crop selected .....*

I. LOCATION IDENTIFICATION	
1. Province	
2. District/Municipality	
3. Sub district	
4. Village	
5. Village classification	Urban – 1 Rural – 2
6. Serial Number of Census Block	
7. Sample Serial Code	
8. Serial Number of Physical building	
9. Serial Number of Census Building	
10. Serial Number of household	
11. Sample serial Number	
12. Name the head of the households	

II. OFFICIAL INFORMATION		
Description	Enumerator	Supervisor
1. Name of the official		
2. Identification number		
3. Date of enumeration/ supervision		
4. Signature		

Length of enumeration ..... minutes



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III.B. GENERAL INFORMATION AROUND ONE YEAR AGO				
1. Is there any member of the households (including the head of the households) being member of any cooperatives? Yes -1 No - 2 (direct to item 4)				
2. Has he/she got any services from the cooperatives? Yes-1 No - 2				
3. If item 2 was coded 1, what are the type of services?				
Money credit	1	Selling product	8	
Input credit	2	Other	16	
Output processing	4			
4. Has she/he got any credit for paddy cultivation? Yes -1 No -2 (direct to item 8)				
5. If item 4 was coded 1, the type of credit?				
Food security credit	1	Other bank credit	16	
General credit	2	Private credit	32	
Village Cooperative credit	4	Other	64	
Other cooperative credit	8			
6. If item 5 was coded 16				
a. When the last credit was received? .....				
b. The total credit was Rp. ....				
7. a. Has the credit been wholly paid? Yes - 1 No - 2				
b. If the answer "No", how much the rest that is not paid yet? .....				
c. Reason of not wholly paid yet?				
Harvest failure	1	Price fall	3	
Still time to pay	2	Other	4	
8. What is the biggest source of credit received by the households?				
Village general credit	1	Food security credit	5	
General credit	2	Primary cooperative credit	6	
Village cooperative credit	3	Other	7	
Other cooperative credit	4			
9. a. Is there any problem in getting credit?				
Yes -1 No -2				
b. If the answer is "yes" what is the reason?				
Bank location is quit far	1	The process complicated	2	
Other	3			
10. For horticulture engagement is there any other help on				
Land processing	1	Fertilizer	3	
Seed	2	Other	4	

IV. LAND CONTROLLED AND THE USE DURING ENUMERATION				
A. Land controlled (square meter)				
Land status	Arable land		Non agriculture land	Total
	Wet land	Dry land		
(1)	(2)	(3)	(4)	(5)
1. Land owned				
2. Land from other party				
3. Land at other party				
4. Land controlled				

B. LAND USE (Square meter)		
1. Land use for horticulture Type of commodity a. .... b. .... c..... d..... e. Sub total		Area planted (m2)
2. Land use for agriculture		
3. Land use for non agriculture		
4. Land for housing		
5. For the land controlled by the household, for 5 years is there any conversion ? Yes - 1 No -2 (direct to Block V)		
6. Type of conversion a. Wet land are converted to non wet land b. Wet land to non agriculture land c. Non wet land wet land e. Non agricultural land wet land f. Non agricultural land non wet land		

V. TYPE OF HORTICULTURAL CROPS CULTIVATED FOR A YEAR AGO				
Type of horticultural crops	Area planted (m2) number of trees	Production (kg)		Value (Rp)
		Unit code	Total	
(1)	(2)	(3)	(4)	(5)

Unit code

Stem 1 trees 2 kg 3 head/seed 4 bundle 5

VI. INCOME/RECEIPT OF HOUSEHOLD ONE YEAR AGO			
Classification	Owned Risk (thousand rupiah)	As labor (thousand rupiah)	Total (thousand rupiah)
(1)	(2)	(3)	(4)
1. Selected horticulture			
2. Other horticulture			
3. Other agriculture			
4. Trading			
5. Manufacturing industry			
6. Other sector			
7. Other income (pension, rent, contract etc)			
8. Other receipt (borrowing, inheritance, pawning, transfer etc.)			
9. Total income/receipt (Item 1+2+3+4+5+6+7+8)			

VII. AGRICULTURAL MACHINERY CONTROLLED AND USED			
Type of agricultural machinery	Do you use any of the agricultural machinery Yes - 1 No - 2	If column (3) is coded (1), the machinery used is: Owned -1 Cooperatives owned -2 Farm group owned -4 Other -8	If column (3) is coded (1) how many owned during the enumeration dates
(1)	(2)	(3)	(4)
1. For land processing a. tractor b. animal			
2. Maintenance a. Hand sprayer b. Knapsack/Skid power sprayer/swing fog c. Water pumps d. Rat blower			

NOTE: BLOCK VIII FOR SEASONAL CROPS  
BLOCK IX FOR ANNUAL CROPS

VIII. INFORMATION ABOUT ENGAGEMENT IN HORTICULTURE, ORNAMENTAL CROPS AND HERBAL CROPS ONE YEAR AGO		
Description	Type of commodity	
	Wet land	Not wet land
1.a. Volume of crops b. Unit code M2 -1, trees 2 bundle 3		
2. System of cropping Homogeen 1 "Tumpang sari" 2 Mixed crops 3		
3. If item 2 were coded 2 or 3 what is the distance between crops?		
4. a. Owned seed Unit code Volume b. Buying 1. Labeled Unit code Volume 2. Unlabeled Unit code Volume c. Other Unit code Volume Unit code gr -1 kg -2 trees 3		
5. Type of harvest: Owned harvest Sold before mature Sold during harvest		

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6. Volume of item 5 was coded 1 Unit code stem -1, trees 2 kg 3						
7.Fertilizer used Types Mark Unit code a. .... b. .... c. .... d. .... e. .... Unit code gr 1 liter 2 kg 3						
7.Pesticide used Types Mark Unit code a. .... b. .... c. .... d. .... e. .... Unit code gr-1, trees-2 liter-3 cc-4						
9. Crop mutation a. Area or number of trees during before the enumeration b. Area harvested/demolished c. Area/trees damaged d. Area/trees newly planted e. Area or number of trees at the end of enumeration						
10. Number of employment (including the farmer)						
Description	Number of men		Number of mandays			
			Paid		Unpaid	
	Male	Female	Male	Female	Male	Female
(1)	(2)	(3)	(4)	(5)	(6)	(7)
1. Land processing a. Wet land b. Non wet land						
2 Planting a. Wet land b. Non wet land						
3. Fertilizing a. Wet land b. Non wet land						
4. Cleaning a. Wet land b. Non wet land						
5. Pest control a. Wet land b. Non wet land						
6. Harvesting a. Wet land b. Non wet land						
7. Post harvest a. Wet land b. Non wet land						

IX. INFORMATION ABOUT ANNUAL HORTICULTURE SELECTED ONE YEAR AGO		
Type of corps		
Description		
(1)		(2)
1. Number of trees/bundles Not productive yet Productive crops Old/damage crops	Unit code trees -1 Bundle -2	
2. Type of planting Not productive yet Productive crops Old/damage crops	Single crops -1 Mixed crops -2 tumpangsaari -3 Spread -4	
3. If item 2 were coded 1 or 3, what is the distance between trees Not productive yet Productive crops Old/damage crops		
4. Source of seed/stem a. Owned production b. Buying 1. Labeled 2. Unlabeled c. Other Unit code gr -1 kg -2 trees 3	Unit code	
5. Harvest type Owned harvest -1 Sold before mature -2 Sold after mature -3		
6. If item (5) was coded 1, the production seed/unit -1 Bundle -2 Kg -3		
Description	Unproductive trees	Productive trees
(1)	(2)	(3)
7. Fertilizer used Types Mark Unit code a. .... b. .... c. .... d. .... e. .... Unit code gr 1 liter 2 kg 3		

Description	Type of crops					
	Not productive yet		Productive trees		Old/damage trees	
(1)	(2)		(3)		(4)	
8. Pesticide used    Mark    Unit code a. .... b. .... c. .... d. .... e. .... Unit code    gr -1, kg-2 cc -3 lt -4						
9. Crop mutation a. at the beginning b. demolished c. addition d. number at the end						
10. Number of employment						
Description	Number of people		Number of Man days			
			Paid		Unpaid	
	Male	Female	Male	Female	Male	Female
(1)	(2)	(3)	(4)	(5)	(6)	(7)
a. Additional Not productive yet Productive						
b. Cleaning Not productive yet Productive						
c. Fertilizing Not productive yet Productive						
d. Pest control Not productive yet Productive						
e. Harvesting Not productive yet Productive						

X. INFORMATION OF POST HARVEST A YEAR AGO

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Type of crops	
1. Was the product sold before mature? Yes, all -1      Yes, part of production -2      None -3	
2. If item 1 were coded 2 or 3, was the product sold after mature? Yes, all -1      Yes, part of production -2      None -3	
3. Harvesting a. If item 2 were coded 2 or 3, how it was harvested? With tool -1    No tool -2 (direct to item 4) b. If item 3 a was coded 1, what was the type of tool? Knife -1,      Scissors -2      Punting pole -3      Other	
4. Mode of transportation from field to house or market Human                      1                      Motor cycle                      4 Animal                      2                      Motor                      5 Non motorize vehicle 3                      Other                      6	
5. Production used a. sold    d. give to other b. consumed                                      e. unusable c. processed	
6. Post harvest a. Before selling. Is there any simple post harvest? Yes -1      No -2 (direct to item 7) b. If item 6 a was coded 1, is there any grading? Yes -1      No -2 (direct to item 7) c. If item 6 b was coded 1, what type of grading was used? By size                      1                      By form                      3 By quality                      2                      Other                      4	
7. The product was mainly sold to Market                      1                      Collector                      4 Village cooperative units 2                      Industrial processing 5 Non village cooperative 3                      Other                      6	
8. Were there any problems in marketing? Yes -1      No -2	
9. If item 8 was coded 1, the main problem? Problem of transportation 1                      Low price                      4 Loss during competition 2                      Other                      5 Excess of production 3	

## XI. NOTES

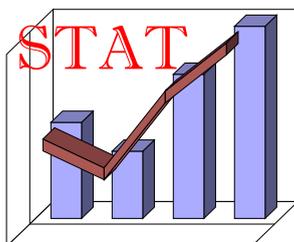
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**PREPARATIONS  
FOR THE 2003 AGRICULTURE CENSUS :  
PROGRESS REPORT 3**

Report # 44

by  
**Suwandhi Sastrotaruno**

November, 2001



**Statistical Assistance to the Government of Indonesia (STAT) Project**  
USAID Contract No. PCE-I-00-99-00009-00

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Preparations for the 2003 Agricultural Census

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## **I. INTRODUCTION**

This is the third progress report on preparations for the Agriculture Census 2003. It covers the following issues:

- (i) Committee meetings
- (ii) Results of the second pilot
- (iii) Preparations for the third pilot
- (iv) Others issues

## **II. COMMITTEE MEETINGS**

On the 26<sup>th</sup> of October 2001, BPS Director General Decision Number 095 was officially announced. That decision formed the 2003 Agricultural Census Implementation Team, including team members and organizational structure for implementation of the census (see Appendix A).

It is advisable that the complete team hold its first meeting as soon as possible to discuss progress to date and to evaluate the results of the first two pilot surveys held respectively in Subang District and Sukabumi District. In the meeting BPS could enquire from the Departments of Agriculture and of Forestry what to consider as nationally ranked commodities. The meeting could also initiate a decision on determining the “minimum level of engagement in agricultural activities”. One proposal is to have an amount of Rp. 700.000.- (seven hundred thousand rupiahs) in gross output within one year as that minimum. The team may consider alternative levels as well.

## **III. RESULTS OF THE SECOND PILOT**

The second pilot was conducted in Sukabumi, West Jawa between 8 and 31 August 2001. Its objective was to test the revised questionnaires of listing (ST2003-L1 and ST2003-L2) and three sub-sectors (ST2003-Paddy, ST2003-Palawija, ST2003-Horti). Field operations were conducted by the regional office of Sukabumi, where they recruited some enumerators and supervisors from the sub-district of Cisaat. BPS also piloted the organization of the census, including the updating of the census block maps. Table 1 provides the timetable used for

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activities under this pilot.

**Table 1.**  
**Timetable for Second Pilot**

Activity	Date
1. Enumerator training	8-10 August
2. Distribution of documents	8-10 August
3. Field operation:	
A. Copying and correcting block census map	13-19 August
B. Listing using ST2003-L1 and ST2003-L2	20-27 August
C. Supervising and manual checking	20-29 August
4. Sending documents to sub district statistical officials	25-31 August
5. Sending the documents to BPS	1-8 September

BPS staff also tested questionnaires for estate crops and forestry in the sub-district of Pelabuhan Ratu, animal husbandry in the sub-district of Cisaat and fishery and village potential in Cisaat and Pelabuhan Ratu.

Findings of the preliminary evaluation of the second pilot can be divided into three sections:

#### **A. General Finding**

These can be briefly described as:

- The training period was considered too short, because too much material was given.
- Some interviewers withdrew from the job, after they discovered that the honorarium was quite small.
- The selection of samples of paddy and horticulture was quite slow, because we had to wait for the summary of all households engaged in paddy and horticulture for Cisaat, then select the households. The report from each interviewer was slow.
- Response from households was not good, because the information that BPS was conducting the pilot was not widely disseminated.
- The block maps did not give clear boundaries of the areas which should be interviewed, so BPS had to recheck or redraw the boundary for each census block.

#### **B. Listing Questionnaires**

These refer to questionnaires ST2003-L1 and ST2003-L2. The findings can be briefly

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described as:

- The division of ST2003-L1 and ST2003-L2 has to be reconsidered, because the consistency of the two questionnaires is implausible.
- But combining the two questionnaires is also difficult, because the number of commodities covered are numerous. One also needs to keep in mind that ST2003-L1 will be used as a sampling frame for households engaged in paddy culture.
- Most farmers answered questions on their land holding in the ST2003-L2 questionnaire, and the commodity engagement only included one line and/or one sub-sector. Therefore a four-page questionnaire is a waste. That suggests that an open questionnaire (i.e. one with no pre-coded commodities) could be considered.
- In Block V (which includes information on the household and its activity) we should add the following: “for seasonal commodities, the period of reference is ‘one year ago’, while for annual crops or animal husbandry the period of reference is ‘at the time of the interview’ ”. It is worth noting that the agricultural censuses of 1963, 1973, 1983 and 1983 used the phrase “usually engaged in agricultural sector or sub-sector”.
- ST2003-L2 needs to have an additional block for “Information on commodities which one household engages in for agricultural activities”. This is a probing question to check the completeness of information filled in the next block. To accommodate the new block, BPS can reduce the written list of horticulture commodities.

### **C. Paddy & Secondary Crop Questionnaires**

These refer to questionnaires ST2003-PADI and ST2003-PALAWIJA. The findings can be briefly described as:

- Block III B item 5 (type of credit): response was mostly “no answer”, i.e. those were caused by no credit anymore for farmers or the type of credit was outdated. BPS should contact the Indonesian People Bank (Bank Rakyat Indonesia) to determine which type of credit is still valid.
- Block IV item 3: Rotation of commodity was considered complicated. BPS did it during the 1993 Census of Agriculture but this time there was no request from the Department of Agriculture for analyzing it. It is recommended that this item be deleted.
- Block V: should add “the month of harvest”, in order to make it possible to have a good estimate.
- Block VI: could be deleted or simplified, because most of the answers were not using agricultural machinery. Sukabumi area is mostly mountainous.
- Block VII is considered too risky, because it will only be used as

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an indicator of which sector provides the main income of the household. It may be better if this question was asked in the Census Sample of Farm Income.

- Block VIII item 16 ("Number of workers involved in the selected paddy culture"): should be deleted, because we cannot sum it up. It is better for analysis that item 15 be completed.
- The time used for enumerating was 20-40 minutes. It is recommended that the number of questions be reduced to cut enumerating time to 15-25 minutes.

#### **D. Horticulture Questionnaire**

This refers to questionnaire ST2003-HORTI. The findings can be briefly described as:

- Block III A column (7): it was enough to ask a question about the main commodity, the questionnaire will be simpler.
- Block III B item 5 (type of credit): answers were mostly "no answer", i.e. no more credit for farmers or the type of credit was outdated. BPS should contact the Indonesian People Bank (Bank Rakyat Indonesia) to determine which type of credit is still valid.
- Block III B item 10 was confusing. It is recommended that it be deleted.
- Block IV A should be asked at the time of enumeration, while Block IV B should be asked at the time of enumeration (for annual crops) or "one year ago" (for seasonal crops).
- Block V should have "month of harvest" added, to make sure that the production estimate is about agricultural activities of one year ago.
- Block VI were mostly for rough estimates and contained no check or recheck with other questions. It is recommended that it be included in the Census Sample of Farm Income.
- Block VII had mostly no answers. It is recommended that it be simplified.
- Block VIII item (3) had mostly "no" answers. It is recommended that it be deleted.
- Block VIII and IX items (7) and (8): these were too ambitious to include in a census data collection. It is recommended that they be deleted.
- Block X item 5 should be: "manufactured"

## **IV. PREPARATIONS FOR THIRD PILOT**

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**A. Location**

The pilot will be conducted in three districts: Takalar (Sub-district of Polong- bangkeng Utara), Gowa (Sub-district of Bontonompo) and Maros (Sub-district of Camba). It will cover 48 villages and 275 census blocks.

**B. Activities**

The activities to be conducted are described in Table 2.

**Table 2**  
**Activities for the Third Pilot**

Activity	Workload
Census Block updating	48 census blocks
Village map updating	6 villages
Village potentials enumeration	48 villages
Listing household using ST2003-L1	275 blocks
Listing household engaged in agriculture by ST2003-L2	All households engaged in agriculture in the area
Enumeration by ST2003-Padi, ST2003-Palawija and ST2003-Horti	2750 households engaged in, paddy, secondary crops and or horticulture.

**C. Timetable**

The timetable for the pilot is provided in Table 3.

**Table 3**  
**Timetable for the Third Pilot**

Activity	Date
Training of enumerators	31 October - 6 November 2001
Enumeration	7 - 24 November 2001
Sending the documents to central office	26-28 November 2001
Processing	29 November - 10 December 2001
Evaluation and reporting	11-14 December 2001

**D. Questionnaires**

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Some revisions have been made for the questionnaires to be used during the third pilot. The revised questionnaires are provided in Appendices B through F.

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### **1. ST2003-L1**

Revisions involve the following:

- Block I: "Sample Code Number" was added
- Block V column (10): BPS added information on animal husbandry during the enumeration date, except for broilers (the period was "one year ago").
- Block V column (11): BPS added "for fish culture at the time of enumeration, while for fish catching use 'usually' "
- Block V item (12): BPS added "for wild animal breeding, use 'the time of enumeration' "

---

### **2. ST2003-L2**

Revisions involve the following:

- For the area identification: BPS added "Village classification", "Census Sample Code" and "number of household engaged in agriculture"
- Block I: BPS added "sleeping land"
- Block II (a new block). This is a probing question to check against other block contents. The question asks about the "type of commodity in agriculture where the household is engaged", where it was divided into two categories (crops and animal husbandry).
- Block III (formerly block II) item 2j: BPS added "What is the main secondary crops for the household"
- Block IV (formerly Block III): the minimum level of engagement in several commodities was changed. The written list of commodities was reduced to ten. BPS also added: "What are the main crops for the household".
- There are no more commodities referred to as "other"
- Block V (formerly Block IV): the minimum level of engagement in several commodities was changed. BPS also added "What are the main crops for the household".
- Block VII (formerly block VI): BPS also added "What is the main animal husbandry for the household"
- Block VIII (formerly block VII): Fish culture in ponds was separated from fish culture in wet lands. Information on the period of reference was added. BPS also added wild animal breeding and

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people engaged in agricultural services.

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### **3. ST2003-PADI & ST2003-PALAWIJA**

Revisions involve the following:

- Block III item 5: BPS revised the “Village Micro Institution Credit” into “Village Micro Financial Institution Credit”. I still recommend that this item be deleted.
- Block III: BPS added item 12 “the usage of machinery and equipment of agriculture” and item 13 “the source of main income of the household”. The old block VI “Agricultural machinery controlled and used” and block VII “the income/receipt of household one year ago” were deleted.
- Block IV item 3: BPS rotated the time asked. I recommend that this question be deleted.
- Block V: BPS added “the month of harvest” and “the location of land”. The location of land is not necessary, because it is impossible to identify the correct administrative area.
- Block VI item 5: BPS added “the area of planting”.
- Block VI items 8 and 9: BPS revised “the usage of seed”.
- Block VI item 11: BPS deleted the question on stimulant and combined organic and pen fertilizer.
- Block VI item 17: could be deleted.

---

### **4. ST2003-HORTI**

Revisions involve the following:

- Former III B item 1 (“Is there any member of household, including the head of the household, who is a member of cooperatives?”) was deleted
- BPS added Block III b item 4 (“Do you get any credit from other than cooperative”)
- Block III B item 5: is simplified, but I still recommend this question be deleted.
- BPS revised block IV item 2 as the land used other than horticulture, item 3 land use (a) for housing (b) non housing
- Block V BPD added with the month of harvest.
- Block VI (“income/receipt of household one year ago”) and Block VII (“Agricultural machinery controlled and used”) are still included. These blocks should be deleted.
- Block IX title was revised from “horticulture” to “vegetables and fruits.”

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- Block IX item 3 (“distance between crops”) could be deleted.

## **V. OTHER ISSUES**

Finally, four points are worth mentioning:

- The Forum Masyarakat Statistik urged BPS to hold an agricultural data potential user seminar. BPS should invite mostly non-governmental agencies, university analysts and regional users. BPS could report the result of the pilots and ask for suggestions on main data to be included.
- I suggest simplifying further the ST2003-L2 and make it a one-page document so that it could be processed by scanners.
- BPS is currently testing the Village Potential (ST2003-Podes)
- All shaded areas make the title unclear. It may be better to have no shaded area for block titles.

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**APPENDIX A**  
**BPS DECISION ON IMPLEMENTATION TEAM**

DIRECTOR GENERAL OF BPS STATISTICS INDONESIA  
DECISION NUMBER 095 OF 2001  
ABOUT  
2003 AGRICULTURAL CENSUS IMPLEMENTATION TEAM<sup>1</sup>

THE DG OF BPS STATISTICS INDONESIA

- Considering :
- a. That data and information in agriculture being important for long-term development, especially for planning, basic policy, monitoring, and for evaluating results of development.
  - b. That the 2003 Agricultural Census is one of the activities done by BPS Statistics Indonesia to obtain accurate agricultural statistics regarding agricultural characteristics in Indonesia.
  - c. That implementation of the 2003 Agricultural Census needs good coordination to make it a success and to have it used optimally
  - d. To achieve goals of a, b and c, a 2003 Agricultural Census Implementation Team is hereby formed
  - e. And members who have been appointed in the attachment are considered capable of doing their job.
- Remembering
- 1. Law Number 16 of 1997 about Statistics (State Gazzete of 1997 number 39, Additional State Gazzete Number 3683)
  - 2. Government Decree Number 51 of 1999 about Statistical holding (State Gazzete of 1999 number 96, Additional State Gazzete Number 3854)
  - 3. Presidential Decree Number 166 of 2000 about status, tasks, functions, authority, organization structure and working arrangements of non departmental institutions revised several times, the latest being Presidential Decree Number 62 of 2001.
  - 4. Presidential Decree Number 178 of 2001 about organization and task of non-departmental institutions revised several times, the latest being Presidential Decree Number 60 of 2001
  - 5. DG of BPS Statistics Indonesia Decision Number 001 of 2001 about the organization and task of BPS

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<sup>1</sup> This is an unofficial translation.

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## DECIDES

- FIRST To form the 2003 Agricultural Census Implementation Team which consists of a Steering Committee and a Technical Committee according to the organizational structure and tasks shown in Attachment 1 and Attachment 2.
- SECOND The steering committee should give direction to the team on technical and administrative aspects.
- THIRD The technical team should prepare materials for the 2003 Agricultural Census on technical and administrative aspects for implementation by the central and/or regional offices and is responsible for all aspects of implementation of the 2003 Agricultural Census.
- FOURTH The basic materials to be prepared by the technical committee consists of methodology, manual, rules of validation, processing, dissemination, briefings, tabulations, analysis, publications, seminars, organization and administration.
- FIFTH The Technical Team Leader could form technical working groups on every aspect needed to ensure that implementation is undertaken optimally.
- SIXTH Tasks, responsibilities and authority of the 2003 Agricultural Census Implementation Team could be seen in Attachment 3
- SEVENTH This decision will take effect at the date it is enacted and will end after the 2003 Agricultural Census data collection is completed with final reports. If subsequently an error is found, then this decision will be revised as necessary.

A copy of this Decision is sent to the persons involved to be used as is.

Decision in : Jakarta  
Date : 11 June 2001

Chief of BPS Statistics Indonesia

Dr. Soedarti Surbakti

Copy sent to :  
Ministry of Agriculture  
Ministry of Forestry  
Ministry of Sea and Fishery  
Chief of National Planning Board  
Echelon I and II of BPS Statistics Indonesia  
Provincial Statistical Chiefs of Indonesia.

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First Attachment of BPS Statistics Indonesia Decision Number 095 of 2001 Dated 11 June 2001

## STEERING COMMITTEE STRUCTURE

Number	Name	Position	From
1	DR. Soedarti Surbakti	Chairman	BPS
2	DR. Ir. Farid A. Bahar, MSc	Vice-Chairman	DG of Food Crop Prod.
3	DR. Choiril Maksum	Secretary	BPS
4	Slamet Mukeno MA	Member	BPS
5	Mulyono Muah MA	Member	BPS
6	Toto E Sastrasuanda MS	Member	BPS
7	Kusmadi Saleh MA	Member	BPS
8	Saudin Sitorus MSc	Member	BPS
9	Ir. Nelson P. Hutabarat MBA	Member	Sec. Gen of MOA
10	DR. Drh. Sofyan Sudardjat MS	Member	DG of Animal Husbandry
11	DR. Ir. Agus Pakpahan MS	Member	DG of Estate crops
12	DR. Sumarno MSc	Member	DG of Horticulture
13	Prof Dr. Ir. Suhardi	Member	DG of Rehab and Soc. For
14	Ir. H. Wahjudi Wardojo MSc	Member	DG of Prot. Resource Cons
15	DR. Ir. Made L. Nurdjana	Member	DG of Fish Catching
16	DR. Ir. Moch. Fatuchri S. MSc	Member	DG of Fish Culture

DG = Director General

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Second Attachment of BPS Statistics Indonesia Decision Number 095 of 2001 Dated 11 June 2001

## TECHNICAL COMMITTEE STRUCTURE

Number	Name	Position	From
1	Slamet Mukeno MA	Chairman	BPS
2	Dr. K. Suhariyanto	Secretary	BPS.
3	DR. Choiril Maksum	Coord of Agr. Mat	BPS
4	Ir. Nanan Sunandi MSc	Member	BPS
5	Ir. Mulyadi Yusuf SH	Member	BPS
6	Drs. Sutarno MM	Member	BPS
7	Ilwan Mangkurat SE	Member	BPS
8	Laode Syafiuddin MSc	Coord of Vill. Pot	BPS
9	Drs. Suharno MSc	Member	BPS
10	Drs. Johnny Anwar	Member	BPS.
11	S. Happy Hardjo SE, MA	Coord of Method.	BPS
12	DR. Dedy Waluyadi	Member	BPS
13	Ir. Dudy Sulaiman M.Eng	Member	BPS
14	Ir. Gunadi Supena	Member	BPS
15	Sodikin M Stat	Member	BPS
16	Subagio Dwijodemono SE, MA	Coord of Planning	BPS
17	Drs. Eri Hastoto	Member	BPS
18	Drs. Winarno Hendrohadi	Member.	BPS
19	Dewi Sri Takarini SE, MA	Member	BPS
20	Drs. Purwotanoyo	Coord of supplies	BPS
21	Abdul Dulsatim	Member	BPS
22	Tri Winanrno	Member	BPS
23	Drs. Susanto	Member	BPS.
24	Edison Ritonga	Member	BPS
25	DR. Satwiko Darmesto	Coord of Dissem.	BPS
26	Iwan Hermanto M. Inf. Sys	Member	BPS
27	Ir. Abdul Aziz	Member	BPS
28	Drs. Wynandin Imawan MSc	Coord of Analysis.	BPS.
29	DR. Komet Mangiri MA	Member	BPS
30	DR. Hamonangan Ritonga	Member	BPS
31	Ir. Sri Indrayanti	Member	BPS
32	Agus Suherman MSc	Coord of Process	BPS
33	Gema Purwana SE	Member	BPS
34	Adi Hastono Ssi	Member	BPS
35	Suwandhi SE	Coord of Res. Per	BPS
36	Sri Budianti MS	Member	Ag. Data Center.
37	DR. Kaman Nainggolan MS	Member	Sec. Of Food Crops
38	Ir. Subagyo Darmowiyono	Member	Sec of Animal Husbandry
39	Ir. Zeinuddin Gairach	Member	Sec of Estate Crops
40	Egi Djanuiswati	Member	Sec of Horticulture
41	DR. Ir. TEM Napitupulu	Member.	Sec of Fishery
42	DR. Ir. Togar A. Napitupulu	Member	Center Plan Forestry
43	Ir. Oesman Yusup MSc	Member	Rehabilitation of land
44	DR. Ir. Dody Supriadi	Member	Resource Conservation
45	Ir. Kristianto	Member	Dir of Fish Catching
46	Ir. Suharyadi Salim	Member	Dir of Fish Culture
47	Ir. Soenaryanto MSc	Member	Planning Board
48	DR. Joyo Winoto	Member	Planning Board
49	Ir. Anwar Sunari MS	Member	Planning Board
50	Drs. Daroedono MA	Member	Planning Board
51	Ir. Arif Rahman Hakim	Member	Planning Board
52	Dra Dwi Martini	Member	BPS
53	Ir. Hasnizar Nasution	Secretariate Member	BPS
54	Suparwati SE	Member	BPS
55	Eko Haryono SE	Member	BPS
56	Miftahul Ulum		BPS

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Third Attachment of BPS Statistics Indonesia Decision Number 095 of 2001 Dated 11 June 2001

### JOB DESCRIPTION OF 2003 AGRICULTURAL CENSUS IMPLEMENTATION TEAM

1. The Team is responsible for the overall 2003 Agricultural Census implementation both in the central and regional offices and both in technical and administrative matters.
2. The 2003 Agricultural Census implementation includes activities done during the 2001 fiscal year, and preparations or implementation during the next fiscal year.
3. Considering that coverage of 2003 Agricultural Census is broad, implying that there is a need to split responsibilities by field, in relation to the coordinator or the individual, tasks are hereby assigned as follows:
  - a. The Steering Committee gives direction and advises the Technical Committee on the success of implementation of the 2003 Agricultural Census.
  - b. The Technical Committee Chairman is responsible for ensuring the smooth operation of tasks given to the technical committee of the 2003 Agricultural Census.
  - c. The Secretary of the Technical Team is responsible for supporting the technical committee chairman to ensure success of the tasks of the Technical Committee of the 2003 Agricultural Census in both technical and administrative matters.
  - d. The Coordinator in each field is responsible for coordinating the flow of materials in his field. In coordinating role, he is not limited to the members of his team, but could also coordinate with other related subject matters. The Coordinator could request any material from other subject matters to accelerate his work.
  - e. The member of the team is responsible for completion of the work given to him by the coordinator.
4. The job description of the technical team for Agricultural Materials is as follows:
  - a. To construct the questionnaires and manuals for agricultural materials
  - b. To produce the tabulation plan and rules of validation for agricultural materials and build the agricultural materials processing program.
  - c. To plan and implement the pilot study for agricultural materials
  - d. To plan the agricultural materials training
  - e. To support the post enumeration survey for agricultural materials
  - f. To prepare publications and comment on the results of the Agricultural Census 2003 (both preliminary and final figures)
  - g. To estimate or calculate parameters or indicators
  - h. To plan for and make projections.
5. The job description of the technical team for Village Potential Materials is as follows:
  - a. To construct the questionnaires and manuals for village

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- potential materials
  - b. To produce the tabulation plan and rules of validation for agricultural materials and build the village potential material processing program.
  - c. To plan and implement the pilot study for village potential materials
  - d. To plan the village potential materials training
  - e. To support the post enumeration survey for village potential materials
  - f. To prepare publications and comment on the results of the Agricultural Census 2003 on village potential materials
- 6. The job description of the technical team for Methodology and Mapping is as follows:
  - a. To plan the methodology for the 2003 Agricultural Census implementation
  - b. To construct the mapping manual and census blocks, including regional updating
  - c. To plan and implement the pilot for mapping materials and for constructing census blocks
  - d. To plan training on mapping and census block construction
  - e. To support implementation of census block construction
  - f. To decide on the methodology and plan the 2003 Agricultural Census organization.
- 7. The job description of the technical team for planning, financing and information is as follows:
  - a. To plan financial needs for the 2003 Agricultural Census Implementation
  - b. To supply the means and instruments needed for the 2003 Agricultural Census
  - c. To plan human resource needs and to recruit enumerators and supervisors for the 2003 Agricultural Census
  - d. To plan the number of documents to print by type
  - e. To construct network planning
  - f. To prepare institutional soft ware products.
  - g. To design the information media for the 2003 Agricultural Census (leaflets, posters etc.)
  - h. To plan printing of information media
  - i. To do briefings and disseminate other information to the public showing that BPS is conducting the 2003 Agricultural Census in the central and regional offices.
- 8. The job description of the technical team for supplies, printing and document distribution is as follows:
  - a. to note and report on the completeness of the Agricultural Census 2003 documents which have been printed and received by BPS
  - b. to plan and prepare for storage of all supplies received from suppliers

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- c. to note and report on the flow of documents sent out from stock
  - d. to prepare and pack then send out the documents
  - e. to monitor the receipt of documents at regional offices
  - f. to plan the shipment of documents (rural areas will be given priority)
9. The job description of the technical team for publication and dissemination is as follows:
- a. printing and other types of dissemination
  - b. to disseminate with several types
  - c. to inform users of the 2003 Agricultural Census
  - d. to plan seminars
10. The job description of the technical team for Analysis is as follows:
- a. to plan tabulations for the 2003 Agricultural Census analysis
  - b. to analyze the 2003 Agricultural Census
  - c. to hold workshops on the usage of the 2003 Agricultural Census data
11. The job description of the technical team for data processing is as follows:
- a. to prepare the manual for processing starting from data transfer up to the final cleaned data
  - b. to plan training for data processing techniques in the central and regional offices
  - c. to merge regional data
  - d. to produce tables as planned
  - e. to make computer programs for ST2003-L1 and ST2003-L2
  - f. to assist subject matter divisions in processing agricultural modules.
12. The job description of resource persons is as follows:
- a. to give input and advise to the team
  - b. To be a resource reference for agricultural materials

CHIEF OF BPS STATISTICS INDONESIA

DR. SOEDARTI SURBAKTI

November 29, 2001

Preparations for the 2003 Agricultural Census

## APPENDIX B ST2003-L1

REPUBLIC OF INDONESIA

# 2003 AGRICULTURAL CENSUS

BUILDING AND HOUSEHOLD LISTING

*Confidential*

Number set of ... from ... sets

I. LOCATION IDENTIFICATION	
1. Province	
2. District/Municipality	
3. Sub district	
4. Village	
5. Village classification	Urban – 1    Rural – 2
6. Number of census block	
7. Local environmental unit	

II. SUMMARY	
1. Number of Households registered in Population Census questionnaire SP2000-L1 (Fulfill by district/municipality office)	
2. Number of household listed (Block IV column (4) the last number of the last pages)	
3. Number of household engage in horticulture (Sum of Block V column (17) item c on the last page.	

III. OFFICIAL INFORMATION		
Description	Enumerator	Supervisor
1. Name of the official		
2. Identification number		
3. Date of enumeration/ supervision		
4. Signature		



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**APPENDIX C**  
**ST2003-L2**

REPUBLIC OF INDONESIA  
**2003 AGRICULTURAL CENSUS**

DETAIL INFORMATION ON AGRICULTURAL HOUSEHOLD

*Confidential*

Province	District	Sub district	Village	Classification of village	Block census number	Sample code number	Segment number

Physical building number	Census building number	Household member	Agricultural household number

Name of the head of the household ..... Length of enumeration: .....

I. LAND CONTROLLED DURING ENUMERATION	
Description	Land area (square meter)
(1)	(2)
1. Area of land owned	
2. Area of land from others	
3. Area of land on others	
4. Area of land controlled	
5. From area of land controlled, fill in the area of "wet land/sawah"	
6. From area of land controlled, fill in the area used for agricultural	
7. From area of land controlled, fill in the "sleeping land"	

II. AGRICULTURAL COMMODITIES WHICH IS RUN BY HOUSEHOLDS					
(for seasonal crops fill in one year ago, for annual crops and animal husbandry during the enumeration)					
Type of crops	Code	For seasonal crops how many harvest one year ago	Type of animal husbandry or wild animal	Code	For chicken broiler, fill in total cycle for one year ago
(1)	(2)	(3)	(4)	(5)	(6)

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III. INFORMATION OF HOUSEHOLD ENGAGED IN PADDY AND SECONDARY CROPS CULTIVATION				
Fill in area of paddy and secondary crops cultivation which is controlled by the households				
Type of crops	Code	Units	Area of crops	Number of farmer
(1)	(2)	(3)	(4)	(5)
1. Paddy		M2		
a. irrigated land				
b. unirrigated land				
a. dry land				
2. Secondary crops				
a. Corn		M2		
b. Soya bean		M2		
c. Peanut		M2		
d. Mung beans		M2		
e. Cassava		M2		
f. Sweet Potatoes		M2		
i. The main secondary crop				

IV. INFORMATION OF HOUSEHOLD ENGAGED IN HORTICULTURE							
A. Fill in number of trees/bundles/area of horticulture (vegetables, fruits, ornamental and herbal trees) which is controlled by households							
Type of crops	Code	Units	Number of trees/ area of crops Controlled	For annual crops, fill in number of productive crops	Minimal Limit Of engagement	For seasonal crops is that column (4) > (6) while for annual crops is that column (5) > (6) yes - 1 no - 2	Number of farmers
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
1. Durian							
2. Mangos							
3. Manggis							
4. Rambutan							
5. Bananas							
6. Onion							
7. Red chili							
8. Cabbage							
9. Orchid							
10. Ginger							
B. If all answers in column (7) are coded 2, is that the total activities beyond the limit ? yes - 1 no - 2							
C. Is that the household could be considered as horticulture household yes - 1 no - 2							
D. What was the main horticulture crops for this household							

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V. INFORMATION OF HOUSEHOLD ENGAGED IN ESTATE							
A. Fill in number of trees/bundles/area of estate crops, which is controlled by households							
Type of crops	Code	Units	Number of trees/area of crops Controlled	For annual crops, fill in number of productive crops	Minimal Limit Of engagement	For seasonal crops col (4) > (6) while for annual crops column (5) > (6) yes -1 no - 2	Number of farmers
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
1. Palm 2. Coconut 3. Rubber 4. Clove 5. Jambu mete 6. Coffee 7. Cacao 8. Pepper 9. Tobacco 10. Tea 11. Sugar cane 12. Cotton Other							
B. If all answers in column (7) are coded 2, is that the total activities beyond the limit ? yes -1 no - 2							
C. Is that the household could be considered as horticulture household yes -1 no - 2							
D. What was the main estate crops for this household							

VI. INFORMATION OF HOUSEHOLD ENGAGED IN FOREST CULTIVATION					
A. Fill in number of trees/bundles/area of trees, which is controlled by households					
Type of trees	Code	Units	Number of trees/bundle of crops Controlled	Number of trees/bundle That could be used	Is the number at column (5) > 40 Yes -1 No. 2
(1)	(2)	(3)	(4)	(5)	(6)
1. Sengon 2. Sungkai 3. Rattan 4. Kaliandra 5. Turi 6. Teak 7. Pinus 8. Akasia 9. Mahoni 10. Bamboo Other					

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VII. INFORMATION OF HOUSEHOLD ENGAGED IN ANIMAL HUSBANDRY							
A. Fill in number of animal husbandry, which is controlled by households							
Type of animal	Code	Units	Number of animal husbandry Controlled	For pig fill in number of pig more than 2 months, while poultry which is more than one month	Minimal Limit Of engagement	For pigs is that column (4) > (6) while for poultry is that column (5) > (6) yes -1 no - 2	Number of farmers
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
<b>A. Big animal</b>							
1. Milk cow	501	head			1		
2. Cow	502	head			2		
3. Buffalo	503	head			2		
4. Horse	504	head			2		
<b>B. Small animal</b>							
1. Pig	505	head			3		
2. Goat	506	head			6		
3. Sheep	507	head			6		
<b>C. Poultry</b>							
1. Race chick	508	head			30		
2. Layer	509	head			12		
3. Cutler	510	head			12		
4. Duck	511	head			12		
Other	220						
B. If all answers in column (7) are coded 2, is that the total activities beyond the limit? Yes -1 No -2							
C. Is that the household could be considered as animal husbandry household Yes -1 No -2							
D. What was the main animal for this household							

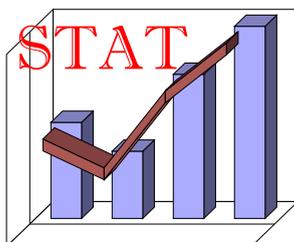
VIII INFORMATION ABOUT THE HOUSEHOLD ACTIVITY	
Is that any member of household (including the head of the household) engage in:	
1. a. Fish culture in water ponds ? Yes - 1 No - 2 b. If the answer is "yes" fill in the area of ponds ..... m2 c. Fish culture in irrigated land ? Yes - 1 No -2 d. If the answer is "yes" fill in the area of irrigated land used ..... m2	
2. a. Engage in brackish water ponds? Yes - 1 No -2 b. If yes, how large the brackish water ponds c. Type of biotic culture Milkfish - 1, shrimp - 2, toher - 3	
3. Other culture in the sea ? Yes - 1 No - 2	
4. Other culture in the general water ? Yes - 1 No - 2	
5. Catching fish at sea ? Yes - 1 No- 2	
6. Catching fish at general water ? Yes - 1 No - 2	
7. Picking forest product? Yes - 1 No - 2	
8. Hunting? Yes - 1 No - 2	
9. As agricultural services? Yes - 1 No - 2	

# **AGGREGATE RICE DATA IN INDONESIA: A BRIEF OVERVIEW**

Report # 48  
Statistical Paper # 13

by  
**Suwandhi Sastrotaruno**  
**Choiril Maksum**

February, 2002



**Statistical Assistance to the Government of Indonesia (STAT) Project**  
USAID Contract No. PCE-I-00-99-00009-00

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## I. INTRODUCTION

Rice is the single most important agricultural commodity in Indonesia and one of the most critical barometers watched by policy makers. For years, observers of the Indonesian economy have debated developments involving this commodity and its consequences with regards to the poverty situation in the country. Data related to rice production and consumption have been analyzed and subjected to consistency and plausibility checks. Many observers outside BPS have tended to believe that the gap between aggregate rice production and consumption was probably due to an under-statement of consumption. Some micro household studies in urban areas, which looked at caloric intake or nutritional status of specific household members, may have supported such a conclusion.

This report provides a brief documentation of how aggregate rice consumption and production data have been computed by BPS over the past decades. It argues that the discrepancy between the two measures is due more to an over-statement of production rather than an under-statement of consumption.

## II. PRODUCTION

Rice data collection in Indonesia is based on the Minister of Agriculture Decree Number 527/Kpts/DP/11/1970 of November 9, 1970, followed by the Memorandum of Understanding between the Director General of Food Crops and the Director General of BPS Number SK. 47/DDP/XI/1972 of November 20, 1970. Based on these decisions, data collection covers two types of data:

- data collected by sub-district offices for Agricultural Extension Services (AES). Officials are referred to as “mantri tani”. Data on area harvested are collected monthly by these offices and reported to BPS and the Ministry of Agriculture.
- data collected by both “mantri tani” and BPS officials (“mantri statistik”). Fifty percent of data on yield are collected by BPS officials and the other fifty percent by AES sub-district offices.

Production of paddy for a particular time period (t) would then be calculated as:

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$$Q_t = A_t y_t$$

where

- $Q_t$  is paddy production, normally measured in thousand tons of dry paddy ready for milling,  
 $A_t$  is area harvested, measured in thousand hectares and  
 $y_t$  is yield, measured in tons per hectare.

Production of rice is then calculated by multiplying  $Q_t$  by a paddy-to-rice conversion factor: until 1986 that factor was 68 percent, between 1987 and 1995 it was 65 percent (based on a post-harvest survey in 1986), and since 1996 it was 63.2%.

#### **A. Area Harvested**

The area harvested is calculated based on an “*eye estimate*” by AES officials. They would report every month on their estimate of the previous month’s area of standing crops, area harvested, area damaged (by pests or other causes) and new planting by type of intensification. They are also required to report their estimate of the current month’s standing crops (although this is only used as a plausibility check). This method of estimation was designed to produce reliable indicators of *change* in the size of areas harvested, rather than their *levels*.

#### **B. Yield**

Until 1994, the following methodology was used. Based on a survey of areas harvested, provinces were classified into two categories: “potential” and “non-potential”. Provinces were then arranged by declining size of areas harvested. Provinces covering cumulatively about 90 percent of areas harvested were then considered as “potential” areas, and the others as “non-potential.” The distinction between the two types of province was important, as the allocation of enumeration areas for “potential” provinces was done by the BPS head office whereas that of “non-potential” provinces was done by provincial offices themselves.

Starting in 1994, selection of enumeration areas was simplified. Instead of classifying provinces into “potential” and “non-potential”, only enumeration areas in what was deemed the most “normal” preceding year would be used to determine the number of enumeration areas to be selected, and a sample of enumeration areas would be selected using the Probability Proportional to Size (PPS) method. From a sampling perspective, this method was preferable

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because it produced a sample which was proportional to the size of areas harvested, unlike the previous method.

The yield per hectare is computed in several steps:

- Once enumeration areas are selected (using PPS), each selected enumeration area is enumerated to identify people engaged in paddy planting and to ask them when he/she will be harvesting.
- The enumerator then selects around five fields for harvesting.
- The enumerator brings with him to the harvested field a 10.5 kg measurement tool, which consists of: an iron (or copper) rectangle, a tripod and a weighing scale. In that field, the enumerator selects randomly a plot of 2.5 m x 2.5 m and puts the rectangle over the selected paddy plot.
- The paddy within the rectangle is then harvested, shed and the paddy grain is placed in a plastic bag, weighed and reported on a special form as the estimated yield of that plot. Around 110,000 reports are usually received by BPS.
- The average yield in the reports is then multiplied by 1600 to obtain the yield per hectare.

These steps are applied to two types of land: irrigated (wet land paddy, “sawah”) and non-irrigated (dry land paddy, “ladang”).

The estimate of yield at the district level in period  $t$  ( $y_{dt}$ ) is calculated as an average<sup>1</sup> of yields for various plots in that district. That is,

$$y_{dt} = \sum y_{dit} / n_{dt}$$

where:

$y_{dit}$  is the yield of the  $i$ -th plot in the district in period  $t$  and

$n_{dt}$  is the number of plots selected in the district in period  $t$ .

Yield per province is calculated as a weighted average of district-level yields, using area harvested as the weight. Reported “yield per hectare” refers to harvested paddy, which will then be converted to dry paddy ready for milling.

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<sup>1</sup> Since the PPS design is self-weighting, there is no need for further weighting.

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### C. Accuracy

Production of paddy of wet land and dry land in Indonesia for the last thirty years, which has been published annually by BPS, is provided in Table 1.

**Table 1**  
**Area Harvested, Yield per Hectare and Paddy Production in Indonesia, 1969-2000**

Year	Wet land paddy			Dry land paddy			Total		
	Area <sup>1)</sup>	Yield <sup>2)</sup>	Prod <sup>3)</sup>	Area <sup>1)</sup>	Yield <sup>2)</sup>	Prod <sup>3)</sup>	Area <sup>1)</sup>	Yield <sup>2)</sup>	Prod <sup>3)</sup>
1969	6544	3.28	21474	1470	1.42	2082	8014	2.94	23556
1970	6679	3.47	23149	1456	1.46	2121	8135	3.11	25270
1971	6893	3.53	24308	1432	1.46	2084	8325	3.17	26392
1972	6602	3.54	23402	1296	1.50	1949	7898	3.21	25351
1973	7064	3.67	25902	1340	1.63	2189	8404	3.34	28091
1974	7340	3.75	27531	1168	1.58	1846	8508	3.45	29377
1975	7334	3.72	27265	1161	1.67	1936	8495	3.44	29201
1976	7229	3.02	21852	1139	1.27	1449	8368	2.78	23301
1977	7202	3.03	21808	1157	1.33	1539	8359	2.79	23347
1978	7698	3.14	24172	1231	1.30	1599	8929	2.89	25771
1979	7675	3.22	24732	1128	1.38	1551	8803	2.99	26283
1980	7824	3.58	27993	1181	1.40	1659	9005	3.29	29652
1981	8191	3.78	30989	1191	1.50	1785	9382	3.49	32774
1982	7873	4.04	31776	1116	1.62	1808	8989	3.74	33584
1983	7987	4.17	33294	1176	1.71	2009	9163	3.85	35303
1984	8547	4.21	36017	1216	1.74	2119	9763	3.91	38136
1985	8756	4.23	37027	1147	1.75	2006	9903	3.94	39033
1986	8888	4.25	37740	1100	1.81	1987	9988	3.98	39727
1987	8796	4.32	37970	1126	1.87	2109	9922	4.04	40079
1988	8925	4.41	39316	1213	1.95	2360	10138	4.11	41676
1989	9375	4.52	42371	1156	2.04	2354	10531	4.25	44725
1990	9378	4.57	42825	1125	2.09	2353	10503	4.30	45178
1991	9169	4.62	42331	1113	2.12	2357	10282	4.35	44688
1992	9799	4.63	45414	1304	2.17	2826	11103	4.34	48240
1993	9807	4.65	45559	1206	2.17	2622	11013	4.37	48181
1994	9494	4.63	43959	1240	2.16	2682	10734	4.35	46641
1995	10081	4.64	46806	1358	2.16	2938	11439	4.35	49744
1996	10251	4.70	48188	1318	2.21	2913	11569	4.42	51101
1997	9882	4.71	46591	1259	2.21	2785	11141	4.43	49376
1998	10476	4.44	46483	1255	2.19	2754	11731	4.20	49237
1999	10794	4.47	48201	1169	2.28	2665	11963	4.25	50866
2000	10618	4.63	49207	1176	2.29	2692	11793	4.40	51899

1) Area in thousand hectares

2) Yield per hectare in tons of dry paddy ready for milling

3) Production in thousand tons of dry paddy ready for milling

How accurate are these estimates? To answer this question one needs to evaluate the quality of the underlying components:

#### 1. Area Harvested

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The use of *eye estimates* for this variable is admittedly subject to some margin of error, at times significant. However, unless the error in these estimates is systematic, the estimated levels may not diverge significantly from the true levels over time. Unfortunately, we believe that the error in these estimates has been systematic, and thus some bias has been introduced into the figures used for computing the series. Two BPS studies, one in North Sumatera and one in Java found a significant over-estimation of area harvested:

- the first survey was conducted between October 1989 and June 1990 in 11 districts of North Sumatera.<sup>2</sup> An integrated two-stage systematic random sampling design was used. In the first stage, fifty villages were selected with probability proportional to size of households engaged in farming. In the second stage, ten households were randomly selected within each village. The survey found that areas harvested had been over-estimated by an average 7.1%.<sup>3</sup>
- the second survey was conducted in 1996 covering all of Java except DKI Jakarta.<sup>4</sup> Unlike the North Sumatera survey, this one was designed specifically for evaluating the accuracy of estimates based on the crop-cutting approach and comparing them with the statistically more reliable (but more expensive) household approach. The same two-stage sampling method used in the previous survey was applied, but coverage was far bigger: 6000 enumeration areas were included and over 262,000 households were enumerated. Thus, results of this survey are believed to be far more reliable than those of any previous one as far as paddy areas harvested are concerned. The survey found that areas harvested had been over-estimated by an average 17.1% (ranging from 13.1% in West Java to 22.9% in Yogyakarta).

That a bias exists in the estimation of areas harvested is, in our judgement, certain. The extent of that bias and its causes, however, are not quite clear. One possible cause may be the

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<sup>2</sup> "Department of Agriculture Pilot Study on Agricultural Survey: Executive Summary," Bureau of Planning Ministry of Agriculture, National Planning Board and BPS, September, 1990. The survey was not limited to paddy production. It covered several crops. However, this report only includes results relevant to paddy.

<sup>3</sup> Results by district varied widely: from an over-estimation of 57.6% (in North Tapanuli) to an under-estimation of 68.8% (in Labuhan Batu).

<sup>4</sup> "Survei Luas Tanaman Padi Dengan Pendekatan Rumahtangga Di Jawa Tahun 1996/1997," BPS, October, 1998.

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difficulty of accurately measuring the rice producing portion of areas used for growing other seasonal crops. A further complicating factor may be the fact that information collected by sub-districts is based on outdated arable land data, which does not take into consideration reduction of arable land for new housing, roads or other conversions. Another cause of the bias may be the attitude of staff doing the estimation: showing an increase (or at least no change) in the size of the area would meet the boss's expectations, whereas a decrease would not make him happy. Since rice is considered a strategic commodity, success of a particular region may have been measured by the growth in its rice production. Also the performance of AES officials may also have been measured by their success in bringing increasing numbers of farmers to plant rice. All these factors may have contributed to what we consider to be a significant over-statement of the level of harvested areas in the official figures.

---

## **2. Yield per Hectare**

We believe that yield per hectare at the plot level is generally accurate, since it is a very simple activity and there is very little incentive to mis-report. Selection of the particular plot by the mantri tani or mantri statistik may be subject to some bias: since a heavy tool needs to be carried, the mantri may choose a plot closer to the road than one farther from the road. Earlier internal BPS studies comparing yields obtained from the mantri tani and those obtained from the mantri statistik suggested that the mantri tani tended to report higher yields than the mantri statistik, but the difference was statistically not significant. Thus, we believe that yield per hectare at the district level is also more or less accurate. Yields per hectare at the provincial level, by weighting areas harvested at the district level, and by being subject to an estimated sampling error of only five percent, should provide an accurate representation of that variable.

---

## **3. Summary**

Overall then, we believe that while yield estimates have been more or less accurate, estimates of area harvested have been over-stated. If the BPS findings for Java can be applied to the rest of Indonesia, then the overstatement of area harvested, at least in the mid 1990's, has been about 17%, which means that rice production had been over-estimated by the same order of magnitude. The BPS Directorate of Agriculture is currently studying this issue in depth, using the extensive work planned under the 2003 Agriculture Census to provide a more

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accurate figure for this variable and a possible revision of the historical series.

### III. CONSUMPTION

#### A. Computation

Data on consumption of rice in Indonesia are primarily based on per capita household consumption derived from the National Socio-Economic Survey (Susenas) expenditure module conducted once every three years since 1981; the latest one was conducted in 1999. Total per capita rice consumption is calculated as the sum of two components:

- per capita rice consumption by household members at home: i.e. rice obtained by the household in raw form and cooked and consumed within the household premises. This component is obtained directly once every three years from the Susenas survey.
- per capita rice consumption by household members outside its premises: i.e. rice consumed in restaurants, food stalls etc. Since a direct measure for this variable does not exist, this component is estimated by applying to the first component the share of prepared foods expenditure outside the household in total household food expenditure, which is obtained from the same Susenas module every three years. For example, if 10% of total food expenditure is found to take place outside the household, then rice consumption outside the household is also assumed to be 10% of total rice consumption, and the figure obtained for the first component (rice consumption within the household) would be inflated by dividing it by (1-10%).

Algebraically, this can be written as:

$$C_t = HC_t / (1 - p_t)$$

where:

$C_t$  is per capita household consumption of rice in period t

$HC_t$  is per capita household consumption of rice at home in period t, and

$p_t$  is the share of prepared food expenditure outside the household in total food expenditure in period t.

One way of computing aggregate household rice consumption in Indonesia, which is the

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methodology used by BPS and documented in this report, would then be to multiply  $C_t$  by the estimated population in the country. Another way, which was not attempted in this report but which may provide different results,<sup>5</sup> is to do the above computations at the district level, and separately for urban and rural households, then aggregate by province then for the whole nation. The strength of the latter method would be that it would allow differentiation of results by urban/rural and by geographic attribute. Whatever method one uses, such figures can only be computed once every three years. Between survey years, figures can be interpolated. BPS published figures apply a geometric interpolation.

Total household rice consumption is then added to estimates of rice consumed as a raw material in manufacturing obtained from input-output tables (NHC )<sup>6</sup> to produce the BPS estimate for total rice consumption in Indonesia in a particular year (TC ). Estimates for the last 30 years are provided in Table 2.

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<sup>5</sup> This may be attempted in the future and results could be compared with those in this report.

<sup>6</sup> For years other than input-output table years, a constant ratio is used based on the previous input-output table.

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**Table 2**  
**Total Rice Consumption in Indonesia**

Year	HC <sup>1)</sup>	p <sup>2)</sup>	Pop <sup>3)</sup>	C <sup>4)</sup>	NHC <sup>5)</sup>	TC <sup>6)</sup>
1969	106.34	5.13	115261	12920	6	12926
1970	107.85	5.16	117567	13369	10	13379
1971	109.37	5.19	119930	13835	14	13849
1972	110.92	5.22	122621	14350	28	14378
1973	112.49	5.25	125372	14885	57	14942
1974	114.09	5.29	128184	15441	118	15559
1975	115.70	5.32	131060	16016	228	16244
1976	113.77	5.35	134000	16107	209	16316
1977	113.77	5.82	137007	16551	241	16792
1978	113.78	6.34	140080	17017	308	17325
1979	113.78	6.90	143223	17504	361	17865
1980	113.79	7.51	146436	18016	470	18486
1981	114.20	8.10	149335	18557	493	19050
1982	114.78	8.44	152291	19091	477	19568
1983	115.45	8.80	155308	19660	475	20135
1984	116.12	9.17	158383	20248	488	20736
1985	116.19	9.62	161520	20765	472	21237
1986	116.25	10.09	164718	21297	467	21764
1987	116.32	10.59	167980	21854	455	22309
1988	116.76	9.80	171306	22175	445	22620
1989	117.24	9.07	174698	22525	459	22984
1990	117.68	8.40	178157	22888	449	23337
1991	117.16	9.84	178797	23234	503	23737
1992	116.64	11.53	180461	23792	615	24407
1993	116.12	13.51	183491	24635	695	25330
1994	114.23	14.10	186510	24802	761	25563
1995	112.37	14.71	189522	24970	918	25888
1996	111.18	15.35	192451	25277	970	26247
1997	108.57	15.26	195300	25022	963	25985
1998	106.02	15.17	197856	24728	986	25714
1999	103.53	15.07	200353	24423	1045	25468
2000	101.10	14.98	203456	24194	1078	25272

Notes:

- 1) Per capita consumption of rice in the household (kg/year)
- 2) Percentage of prepared food expenditure outside the household, derived from Susenas. Between Susenas years, percentages were interpolated.
- 3) Total population in thousands
- 4) Total household consumption of rice (thousand tons)
- 5) Non-household rice consumption (thousand tons)
- 6) Total Consumption of rice (thousand tons)

## B. Accuracy

How accurate are aggregate rice consumption data estimated using the above methodology? Short of conducting special surveys for this particular purpose, the best that one can do is to evaluate the plausibility of the most critical underlying data, namely those obtained from the Susenas module. Table 3 provides the weekly per capita household rice consumption,

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both the quantity and value, used in the computations provided earlier in Table 2. The average per capita household consumption figures, both the value and quantity, are highly plausible. The fact that the average quantity consumed remained more or less around the same realistic level (2.2 kg) increases our confidence in these figures.

**Table 3**  
**Per Capita Household Rice Consumption in Susenas**  
**(1981-1999)**

Year	Weekly Consumption (Rp)	Weekly Consumption (kg)	Implicit Rice Price (Rp/kg)	Average Rice Price in Indonesia (Rp/kg) <sup>1)</sup>
1981	539	2.25	240	261
1984	728	2.049	355	344
1987	904	2.240	404	403
1990	1274	2.263	563	549
1993	1404	2.233	629	644
1996	2090	2.138	978	983
1999	5382	1.991	2703	2809

1) Average consumer price in 27 provincial capital cities, BPS.

These results suggest that in the aggregate, while there may be some under-statement of rice consumption in Susenas because of the exclusion of rice consumed outside the household, that under-statement is probably not very high.

#### IV. CONSISTENCY OF AGGREGATES

The above sections dealt with BPS estimates of aggregate production and of aggregate consumption of rice in Indonesia and some of the weaknesses of these measures. One useful way to check plausibility of these figures is to compare totals for consistency, not for exact matching, but to see whether they suggest the same order of magnitude.

Consumption and production of rice are not directly comparable: not all production is consumed domestically and some consumed products may be imported. In attempting to evaluate consistency of aggregate figures, it is useful to start with the following identity:

$$Q_t + (M_t - X_t) = C_t + S_t$$

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where:

- $Q_t$  is domestic production of rice in period  $t$
- $M_t$  import of rice
- $X_t$  export
- $C_t$  domestic consumption
- $S_t$  change in stocks from  $t-1$  to  $t$ .

What the identity says is basically that the domestic supply of rice (the left-hand side of the equation) is either consumed domestically or added to warehouses for future consumption (the right-hand side of the equation). Data on the stock of rice at the National Logistics Agency (Badan Urusan Logistik - BULOG) are available monthly, but data on the stock of rice at the farmer level, which are believed to constitute the bigger share, are not: to our knowledge, these data were only collected once in the 1986-87 post-harvest survey. Furthermore, although the level of stocks may fluctuate from year to year, over time it should theoretically average out to zero. That is why in our estimate of the total rice supply in the last 30 years (in Table 4), we have assumed that it was zero.

Table 4 provides a comparison of aggregate production, supply and consumption of rice over the past three decades.

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**Table 4**  
**Supply vs Consumption of Rice in Indonesia**  
(in thousand tons)

Year	Production	Net Imports <sup>1)</sup>	Supply	Consumption
1969	16018	238	16256	12926
1970	17184	324	17508	13379
1971	17947	120	18066	13849
1972	17239	335	17573	14378
1973	19102	1863	20965	14942
1974	19976	1132	21109	15559
1975	19857	693	20549	16244
1976	15845	1301	17146	16316
1977	15876	1973	17849	16792
1978	17524	1842	19366	17325
1979	17879	1922	19794	17872
1980	20163	2012	22175	18486
1981	22286	538	22825	19050
1982	22837	310	23147	19614
1983	24006	1169	25175	20226
1984	25933	414	26347	20736
1985	26542	34	26576	21200
1986	27014	28	27042	21682
1987	26051	55	26106	22309
1988	27089	33	27122	22620
1989	29071	268	29339	22984
1990	29366	49	29415	23337
1991	29047	171	29218	23737
1992	31356	608	31964	24407
1993	31318	23	31340	25330
1994	30317	630	30946	25563
1995	32334	1799	34132	25888
1996	33296	2143	34439	26247
1997	31206	285	31491	25985
1998	31118	2885	34002	25714
1999	32147	4503	36650	25468
2000	32800	1266	34066	25272

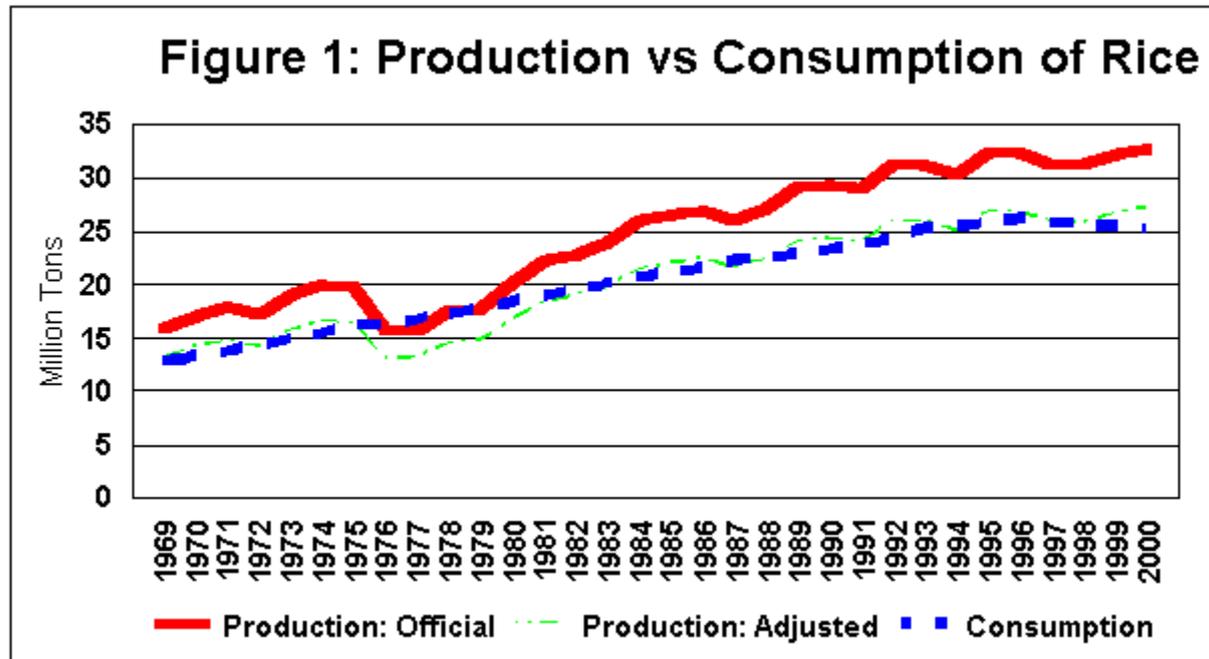
1) Imports minus exports

Supply and production figures do not differ substantially, since the only difference between them, namely net imports, have averaged about 4% of production. A significant implausible gap, therefore, exists between aggregate production and consumption. How to explain such a gap? Given our belief stated in Section II above that production figures have been over-stated, we have attempted to “adjust” them by our best guess at this point, which was derived from the extensive survey conducted in Java in 1996, that is, cutting production by 17%. The result, shown in Figure 1) is surprisingly close estimates for production and consumption for the entire 30-year period

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with the exception of 1976-1980.<sup>7</sup> This strengthens our argument that the error lies more in the production, rather than the consumption, estimates.



## V. CONCLUSIONS

The discussion in this report suggests one simple and pretty clear conclusion regarding aggregate estimates of rice production and consumption in Indonesia: both the estimates for production and consumption are subject to some margin of error; the error in the consumption estimate is likely to be small and that in the production estimate much larger. **Although total rice consumption in Indonesia may be understated, that of total rice production is almost certainly overstated, and by a significant margin. Our very rough calculation suggests that there is a net overstatement of production in the magnitude of about 17%.**

<sup>7</sup> By historical standards, i.e. compared to the pre-1976 or the post-1980 periods, official estimates of production in the 1976-1980 period were far lower than usual. The main cause appears to be the historically unusual drop in 1976. The cause of that drop, as of the writing of this report, remains unclear.

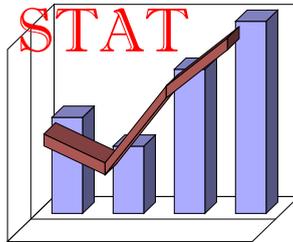
**PREPARATIONS  
FOR AGRICULTURE CENSUS 2003:  
PROGRESS REPORT 3A**

Report # 53

by

**Suwandhi Sastrotaruno**

June, 2002



**Statistical Assistance to the Government of Indonesia (STAT) Project**  
USAID Contract No. PCE-I-00-99-00009-00

June 26, 2002

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## I. INTRODUCTION

This is the third progress report on preparations for the Agriculture Census 2003. It discusses (in Section II) one completed pilot survey (in South Sulawesi) and (in Sections III and IV) two pilots still underway (one in Lampung and the other, on directory updating, in several provinces). A brief description of remaining activities in 2002 follows in Section V. Finally, in Section VI we argue that two actions are necessary to be taken at this time: first, a meeting of the BPS Director General with the President so that a decision can be made on whether the operation will include a full census or a large survey; the second is that BPS needs to start taking a serious look at the operational plan for the census.

## II. SOUTH SULAWESI PILOT

### A. Location

The pilot was conducted in three districts of South Sulawesi: Takalar (sub-district of Polong- Bangkeng Utara), Gowa (sub-district of Bontonompo) and Maros (Sub-district of Camba).

### B. Activities

Table 1 summarizes activities conducted under this pilot.

**Table 1**  
**Activities Undertaken in the South Sulawesi Pilot**

Activity	Coverage
Census Block updating	48 census blocks
Village map updating	6 villages
Enumeration of village potential	48 villages
Listing households using ST2003-L1	275 blocks
Listing households engaged in agriculture using ST2003-L2	All households engaged in agriculture in the area
Enumeration using ST2003-Padi, ST2003-Palawija and ST2003-Horti	2750 households engaged in paddy, secondary crops and/or horticulture.

### C. Timetable

Table 2 provides the timetable of events covered under the pilot and their realization.

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**Table 2**  
**Timetable of Activities in the South Sulawesi Pilot**

<b>Activity</b>	<b>Target</b>	<b>Realization</b>
Training of enumerators	31 Oct.- 7 Nov. 2001	31 Oct.- 7 Nov. 2001
Map sketch copying	5-8 Nov. 2001	5-8 Nov. 2001
Map updating	7-24 Nov. 2001	7-24 Nov. 2001
Enumeration of village potential	7-24 Nov. 2001	7-24 Nov. 2001
Household listing	9-20 Nov. 2001	9 Nov. - 28 Dec. 2001
Sample selection	23-25 Nov. 2001	2-5 Jan. 2002
Sample enumeration	26 Nov.- 2 Dec. 2001	6-15 Jan. 2002
Processing	26 Nov. - 10 Dec. 2001	5 Jan. - 14 March 2002
Evaluation and reporting	11-14 Dec. 2001	Not yet completed

As the table shows, several activities planned since November, 2001 have been delayed. Reasons for the delay include:

- Activities coincided with the Fasting Month, Christmas and the New Year
- A mistake was detected during supervision involving a misinterpretation of the concept of "household engaged in agriculture." Some field workers interpreted the concept as including any household having an agricultural product. To correct that error, a special circular was produced by the provincial office to ensure that field workers conformed with the definition in the manual and instructing them to revisit the area which had been covered.
- The number of households engaged in agriculture was initially estimated to be about 18,000 but was found to be more than 22,000. So 4,000 additional ST2003-L2 needed to be printed by the regional office. The delay in listing in turn delayed sample selection, enumeration and processing.
- Several interviewers (mantri statistik) were also involved in enumerating Susenas at the same time.
- The processing software had some important bugs that needed to be cleared.

The main conclusions with regard to that pilot can be summarized as follows:

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- Map updating was successful. Maps for 48 census blocks, 5 (five) villages and 2 (two) sub-districts were updated.
- Village enumeration using ST2003-PODES was completed as targeted, but some of the questions were difficult to answer, some were doubtful, and some were out of date. Therefore, that questionnaire needed to be revised.
- The average number of households engaged in agriculture in the three sub-districts was 81. Although the supervisor asked enumerators to revisit areas in which it was discovered that the correct definition of "household engaged in agriculture" was not applied, it appears that some did not do that.
- Listing using ST2003-L1 and ST2003-L2 could only reach 15-20 households per interviewer per day. If each interviewer enumerates 3-4 blocks containing an average of 100 households per block, the target listing could be completed in 15-26 days.
- A comparison in 5 census blocks was made between two versions of the ST2003-L2 form: one simplified into one sheet and the other containing two sheets. Although we believe that the comparison was not accurate, it is preferable, given the limited remaining time, to simply use the two-sheet version. Potential benefits to be gained from the simplification probably do not outweigh the cost of delaying the operation.
- The listing questionnaire was too complicated. One suggestion was to simplify it by using ST2003-L1 for enumerating all households, then each household can be interviewed using ST2003-L2 with an additional probing question block. This information can be used for checking information in the subsequent blocks.
- For the ST2003-Padi, ST2003-Palawija and ST2003-Hortikultura questionnaires, an enumerator could complete 4-6 households per per day. If every interviewer enumerated 30-80 households, the target could be completed in 6-13 days. These questionnaires could still be further simplified.

### **III. LAMPUNG PILOT**

A small pilot was conducted in Lampung between 29 April and 1 May 2002 to test the revised listing questionnaire. It covered 4 (four) sub-districts (Talang Padang, Sumberejo, Pagelaran and Gadingrejo) of the Tanggamus District.

The following sections summarize our findings regarding the ST2003-L1 (summary listing of buildings and households), ST2003-L2 (listing of agricultural activities and commodities) and ST2003-LKOC (quick manual processing of household listing) questionnaires.

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**A. ST2003-L1**

- The ST2003-L1 was simplified to include only a summary of households listed in a block. If the block was identified as “paddy potential” block, the listing in the questionnaire would also be used as a sampling frame for households engaged in paddy planting. Block IV columns (6)-(8) of the questionnaire were copied from the ST2003-L2 Block III item 1 (d) which were checked.  
For non-paddy census blocks, it is recommended that columns (6)-(8) be dropped, so that each page could cover up to 70 households.
- The commodity code was attached to ST2003-L1. It is recommended that the list be printed separately as a small pocket size book.

Appendix A shows the questionnaire used in the pilot.

**B. ST2003-L2**

- This questionnaire was used for listing households and their agricultural activities, and for getting population parameters on the number of trees, livestock, poultry etc.
- If a household controlled non-arable land, then the answer to probing question (ST2003-L2 Block II) would be blank. Therefore, the statement “if block II item (2) is blank, go to block VIII”, should be deleted.
- The probing question did not work properly, because some respondents took a long time explaining commodities produced, then took even longer to answer questions in the next block. Many households had more than three commodities, making the process too time consuming.
- ST2002-L2 Block III- V should be made available to differentiate between ranked commodities in the district and non-ranked commodities. Results of the enumeration suggests that households reported different ranked commodities than anticipated.
- The inland fisheries (ST2003-L2 item A 1) could be differentiated into “karamba” (basket put in a stream for raising fish), floating net, etc; while item 2 could be separated by boat type (not using boat, using non-motor boat, outboard motor and motor boat).
- If new villages or new sub-districts are under the supervision of more than one statistical extension service, enumeration should make sure that boundaries are clearly demarcated.
- Results will cover the newest administrative areas, which will be very useful given the increasing need for small area statistics to

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regional users.

Appendix B shows the questionnaire used in the pilot.

### **C. ST2003-LKOC**

This document was designed to speed up processing (LKOC is the acronym for *Lembar Kerja Olah Cepat*). Given programming difficulties faced during the South Sulawesi pilot, it is recommended that the processing software be completed and fully tested no later than August in order to avoid any unnecessary delays. Appendix C provides the latest version of the questionnaire.

## **IV. DIRECTORY UPDATING PILOT**

This pilot was conducted in North Sumatra (Asahan, Langkat and Medan Municipality), West Java (Cianjur, Bandung and Sukabumi), West Kalimantan (Sambas, Sanggau and Pontianak) and South Sulawesi (Sidrap, Luwu and Ujungpandang Municipality). The objective was to update the present directory which covers all enterprises involved in: paddy, secondary crops, horticulture, forestry (cutting trees, planting trees, wild animals and nature tourism area)s, livestock, poultry, fishery (catching and culture), animal slaughtering and fish auctions. The directory to date was prepared following these steps:

- First, the BPS central office prepared a version based on the results of the 1993 agricultural census and updated through annual enumerations.
- this version was updated by adding information on new enterprises engaged in agricultural activities obtained from the Ministries of Agriculture, Forestry and Fisheries.
- this is then sent to the BPS provincial/kabupaten offices for their input and to incorporate the latest information about enterprises in their jurisdiction.
- the complete new list is then consolidated into form ST2003-DPP1 (see Appendix D).

A pilot for checking contents of this form was then planned according to the timetable in Table 3, and reporting was expected to be done according to Form ST2003-DPP2 (see Appendix E).

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**Table 3**  
**Timetable for Directory Updating Pilot**

Activity	Planned Time
<b>1. Preparation</b> a. Questionnaire design and manual b. System design c. Documents printing d. Sending documents to regional office e. Training of instructors	1 January - 11 April 2002 16 March - 15 April 2002 12 - 17 April 2002 18 - 24 April 2002 22 - 27 April 2002
<b>2. Field Operation</b> a. Collection of new enterprise at central office b. Matching at central office c. Collection of new enterprise at the regional d. Matching at provincial office e. Matching at district level f. Checking in the field	1 February - 17 March 2002 1 - 31 March 2002 1 February - 14 April 2002 15 - 31 April 2002 29 April - 4 May 2002 6 - 17 May 2002
<b>3. Processing and Reporting</b> a. Sending document to central office b. Processing at the central office c. Evaluation and report writing	15-26 May 2002 27 May - 15 June 2002 16 - 22 June 2002

For livestock and poultry, conceptually what needed to be covered were not only enterprises having a legal status, but any enterprise holding stocks according to the criteria provided in Table 4. However, given the operational difficulties in covering enterprises without legal status, it is recommended that coverage be limited to those with legal status.

**Table 4**  
**Minimum Levels of Stocks Held for Inclusion in the Survey**

Type	Amount
<b>Livestock</b> a. livestock for slaughter(inc. buffaloes, horses) b. sheep c. pigs	100 mother or 250 mixed 50 mother or 300 mixed 25 mother or 125 mixed
<b>Poultry</b> a. egg layers b. broilers c. turkeys d. quails	2500 mother or 1500 eggs/day 375 chickens/weeks or 19500 per year 10000 mother or 25000 mixed 25000 mother or 50000 mixed

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## **V. REMAINING ACTIVITIES FOR 2002**

Several activities remain to be done during the 2002 financial year:

### **A. Map Updating**

Several census block maps were found to be lost or physically damaged due to improper maintenance, making delineation of clear census block boundaries difficult in some cases. Furthermore, although in theory each census block contains around 100 households, some have expanded so rapidly that they now contain 1000 households. Thus more attention needs to be paid to ensuring accurate maps, since they will be key to good enumeration.

### **B. ST2003 Pilot**

This pilot aims at testing the revised Lampung pilot questionnaire (ST2003-L1) as well as testing the sub-sectoral questionnaires: horticulture, estate crop culture, fish culture, fish catching, forestry (planting wood, collecting wood and catching or looking after wild animals). The listing questionnaire will use regional interviewers and supervisors, while the sub-sectoral questionnaires will be tested by officials from the central office. The pilot will be conducted in Sitobondo and Lumajang (both in East Java) in June 2002.

### **C. General Rehearsal**

This activity, covering finalized questionnaires (ST2003-L1, ST2003-L2, ST2003-Padi, ST2003-Palawija and ST2003-Hortikultura), is expected to be conducted in North Sumatra in September 2002. Processing and final results should be completed by March/April 2003 so that everything will be ready for the actual implementation to be started in August 2003.

### **D. PODES Enumeration**

The ST2003-PODES questionnaire has just been finalized and will be used for enumeration in August 2002. This operation should provide the final list of names, locations and boundaries for all villages. One needs to emphasize the importance of having organizational structures of all villages formally finalized (through official decrees from the Ministry of Internal Affairs) to ensure that village administrators have the necessary authority to provide information accurately and promptly, with whatever support needed from the BPS sub-district officials (mantri statistik).

### **E. Directory Updating**

Completion of the ST2003-DPP1 form is expected in July 2002. The final directory should be available in November 2002 to be used for census enumeration.

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## VI. OTHER ISSUES

In our judgement, two further important issues need to be settled very soon to ensure that agriculture census preparations move forward in an effective way:

- **BPS needs to resolve the issue of whether to conduct a full census or only a sample.** A decision needs to be made soon on this issue. To move things forward, it is recommended that **the BPS Director General raise this subject with the President before the end of July 2002**, in the presence of relevant ministers (Agriculture, Forestry, Sea and Fishery and Finance), before budget negotiations are finalized for the 2003 financial year. She can make a case for the need for a full census and a final decision can then be made based on the government's budget considerations. The main thing is that a final decision has to be made so that appropriate plans are made in time.
- It is time to have serious discussions within BPS about the census operational plan. Time is becoming increasingly critical. For that, it is recommended that:
  - a. The census secretariat meet once a week to discuss progress and plan for the following weeks, with decisions (falling under its authority) and actions made as necessary.
  - b. A meeting be held with relevant Echelon I officials within BPS once every two weeks to ensure that necessary decisions are made and actions are undertaken.

These actions may appear trivial but we believe that they have become necessary at this time if we are to avoid any unpleasant surprises once fieldwork starts.

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**APPENDIX A**  
**ST2003-L1 QUESTIONNAIRE USED IN LAMPUNG PILOT**

**REPUBLIC OF INDONESIA**  
**2003 AGRICULTURAL CENSUS**

BUILDING AND HOUSEHOLD LISTING

*Confidential*

Length of enumeration . . . . .

I. LOCATION IDENTIFICATION	
1. Province	
2. District/Municipality	
3. Sub district	
4. Village	
5. Village classification	Urban – 1    Rural – 2
6. Number of census block	
7. Sampel Code Number	
8. Local environmental unit	

II. SUMMARY	
1. Number of Households registered in Population Census questionnaire SP2000-L1 (Fulfill by district/municipality office)	
2. Number of household listed (Block IV column (4) the last number of the last pages)	

III. OFFICIAL INFORMATION		
Description	Enumerator	Supervisor
1. Name of the official		
2. Identification number		
3. Date of enumeration/ supervision		
4. Signature		



**APPENDIX B  
ST2003-L2 QUESTIONNAIRE USED IN LAMPUNG PILOT**

**REPUBLIC OF INDONESIA**

**2003 AGRICULTURAL CENSUS**

**AGRICULTURAL HOUSEHOLD LISTING**

*Confidential*

Province	District	Sub district	Village	Classification of village	Block census number	Sample code number	Segment number

Physical building number	Census building number	Household member

Name of the head of the household ..... Length of enumeration: .....

I. LAND CONTROLLED DURING ENUMERATION			
a. Area of land controlled		B. Area of land used	
Description	Land area (square meter)	Description	Land area (square meter)
(1)	(2)	(1)	(2)
1. Area of land owned		1. Land for agriculture	
2. Area of land from others		a. Wet land	
3. Area of land on others		b. Not wet land	
4. Area of land controlled		2. Non agricultural land	
		a. Housing and its surrounding	
		b. Unused (sleeping) land	

IF BLOCK I B 1 COLUMN 2 IS BLANK, DIRECT TO BLOCK VIII

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II. INFORMATION ABOUT HOUSEHOLDS ENGAGE IN LAND USING (It is filled if Block I B item 2 available. For seasonal crops fill in one year ago, for annual crops during the enumeration)			
Is there any member of the households (including the head) which is engage in agriculture activities, looking after livestock or poultry and or fish?			
Description	Yes - 1 No - 2	If yes, write down the commodity	
(1)	(2)	(3)	
1. Paddy 2. Secondary crops 3. Horticulture crops 4. Estate crops 5. Forestry crops 6. Animal husbandry			
7. Is there any fish/other culture during enumeration	Yes - 1 No - 2	If "yes", is that all or part of it was sold or exchange Yes - 1 No - 2	If yes fill in the area used, or the type of animal
a. In fresh water pond b. In the paddy field c. In the brackish water pond			
8. Wild animal culture			

III. INFORMATION OF HOUSEHOLD ENGAGED IN PADDY AND SECONDARY CROPS CULTIVATION			
Fill in area of paddy and secondary crops cultivation which is controlled by the households			
Type of crops	Code	Units	Area of plants during one year ago
(1)	(2)	(3)	(4)
1. Paddy a. irrigated land b. unirrigated land a. dry land		M2	
2. Secondary crops a. Corn b. Soya bean c. Peanut d. Mung beans e. Cassava f. Sweet Potatoes g. The main secondary crops		M2 M2 M2 M2 M2 M2	

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IV. INFORMATION OF HOUSEHOLD ENGAGED IN HORTICULTURE							
For seasonal crops fill in during one year ago, while for annual crops during enumeration							
A. Fill in number of trees/bundles/area of horticulture (vegetables, fruits, ornamental and herbal trees) which is controlled by households							
Type of crops	Code	Units	Number of trees/area of crops	Is that all or parts of crops sold or exchanged Yes - 1 No - 2	For annual crops, fill in the productive trees	Minimal Limit of engagement	If column (5) coded 1 for seasonal crops is that column (4) > (7). For annual crops is column (5) > (6)
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
1. Durian 2. Mangos 3. Manggis 4. Rambutan 5. Bananas 6. Onion 7. Red chili 8. Cabbage 9. Orchid 10. Ginger							
B. If all answers in column (8) are coded 2, is that the total activities beyond the limit ? yes - 1 no - 2							
C. Is that the household could be considered as horticulture household yes - 1 {column (8) or item B coded 1} no - 2							
D. What was the main horticulture crops for this household (Item A column (8) coded 1)							

V. INFORMATION OF HOUSEHOLD ENGAGED IN ESTATE CROPS CULTURE							
For seasonal crops fill in during one year ago, while for annual crops during enumeration							
A. Fill in number of trees/bundles/area of estate crops, which is controlled by households							
Type of crops	Code	Units	Number of trees/area of crops	Is there part of all was sold or exchanged Yes - 1 No - 2	For annual crops, fill in number of productive crops	Minimal Limit Of engagement	If column (5) coded 1 for seasonal crops is that column (4) > (7) while for annual crops is that column (6) > (7) yes - 1 no - 2
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
1. Palm 2. Coconut 3. Rubber 4. Clove 5. Jambu mete 6. Coffee 7. Cacao 8. Pepper 9. Tobacco 10. Tea 11. Sugar cane 12. Cotton Other							
B. If all answers in column (8) are coded 2, is that the total activities beyond the limit ? yes - 1 no - 2							
C. Is that the household could be considered as estate crop household yes - 1 {column (8) or item B coded 1} no - 2							
D. What was the main estate crops for this household (item A column (8) coded 1)							

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VI. INFORMATION OF HOUSEHOLDS ENGAGED IN FOREST CULTIVATION							
A. Fill in number of trees/bundles/area of trees, which is controlled by households							
Type of trees	Code	Units	Number of trees/bundle	Is there part or all was sold or exchanged Yes - 1 No - 2	Number of trees/bundle That could be used	Minimal Limit Of engagement	Is the number at column (6) > (7) Yes -1 No. 2
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
1. Sengon 2. Mahoni 3. Teak 4. Akasia 5. Suren 6. Sungkai 7. Omeling 8. Sonokeling 9. 10. 11. 12. Bamboo Other							
B. If all answers in column (8) are coded 2, is that the total activities beyond the limit? Yes - 1 No - 2							
C. Is that the household could be considered as forestry household yes - 1 {column (8) or item B coded 1} no - 2							
D. What was the main forestry crops for this households (Item A column (8) coded 1)							

VII. INFORMATION OF HOUSEHOLD ENGAGED IN ANIMAL HUSBANDRY Except for chicken broiler during the enumeration date							
A. Fill in number of animal husbandry, which is controlled by households							
Type of animal	Code	Units	Number of animal husbandry Controlled	Is there part or all was sold or exchanged Yes - 1 No - 2	For pig fill in number of pig more than 2 months, while poultry which is more than one month	Minimal Limit Of engagement	For pigs is that column (4) > (6) while for poultry is that column (5) > (6) yes -1 no - 2
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
A. Big animal 1. Milk cow 2. Cow 3. Buffalo B. Small animal 1. Pig 2. Goat 3. Sheep C. Poultry 1. Race chick 2. Layer 3. Cutler Other	501 502 503 505 506 507 508 509 510 220	head head head head head head head head head head			1 2 2 3 6 6 30 12 12		
B. If all answers in column (8) are coded 2, is that the total activities beyond the limit? Yes -1 No -2							
C. Is that the household could be considered as animal husbandry household Yes -1 No -2							
D. What was the main animal for this households							

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VIII. INFORMATION ABOUT THE OTHER HOUSEHOLD ACTIVITY		
A. OTHER AGRICULTURAL ENGAGEMENT		
Is there any member of household (including head of the household) engage in:		
Description	Yes - 1 No - 2	Is there part or all was sold or exchanged Yes - 1 No - 2
(1)	(2)	(3)
1. Fish or other culture in the sea during the enumeration 2. Fish and other culture in public water during the enumeration 3. Generally catching fish in the sea 4. Generally catching fish in public water 5. Generally collecting forest wood or catching wild animal 6. Engage in agricultural services		
B. OTHER ACTIVITY		
Is there any member of household (including the head of the household) engage in:		
Description	Yes - 1	No - 2
1. As hired agricultural manager during the enumeration 2. Engage in agriculture processing 3. Engage as agriculture labor		

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**APPENDIX C**  
**ST2003-LKOC QUESTIONNAIRE**

REPUBLIC OF INDONESIA

## 2003 AGRICULTURAL CENSUS

### SUMMARY OF AGRICULTURE HOUSEHOLD LISTING

Confidential

Length of copying . . . . . minutes

I. LOCATION IDENTIFICATION	
1. Province	
2. District/Municipality	
3. Sub district	
4. Village	
5. Number of census block	

II. SUMMARY	
1. Number of Households using land (Block VI column (24) item c the last set)	
2. Number of household engaged in agriculture (Block VI column (25) item c the last set)	
3. Number of household "small farmer" (Block VI column (26) item c on the last set)	

III. OFFICIAL INFORMATION		
Description	Enumerator	Supervisor
1. Name of the official		
2. Identification number		
3. Date of enumeration/ supervision		
4. Signature		







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**APPENDIX E**  
**FIELD CHECK FORM FOR ST2003-L2**

REPUBLIC OF INDONESIA

## 2003 AGRICULTURAL CENSUS

FIELD CHECKING OF AGRICULTURAL ENTERPRISE  
DIRECTORY/SLAUGHTERING HOUSE/AUCTION PLACE

*Confidential*

KIP

I. LOCATION IDENTIFICATION	
1. Province	
2. District/Municipality	
3. Sub District	

II. OFFICIAL INFORMATION		
Description	Enumerator	Supervisor
1. Name of the official		
2. Identification number		
3. Date of enumeration/ supervision		
4. Signature		

III. INFORMATION FILL IN BEFORE FIELD CHECKING	
1. Type of activity	Code :
2. Complete name of the enterprise	
3. Enterprise address :	
Telephone number :	Post code Fax number :

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IV. RESULT OF FIELD CHECKING	
1. Type of agriculture activity :	
2. Complete name of the enterprise	
3. Address of the enterprise : Street :	
Village :	Post code :
Kecamatan :	Fax number :
Kabupaten/Kota	Web site :
Province :	
Telephone number	
Email	
4. Legal status	
5. First year of commercial production	
6. Enterprise activity : a. Main activity : b. Main production : c. Indonesian Industrial classification :	
7. Number of fixed labor (man)	
8. Number of unfixed labor (mandays)	
9. Enterprise status a. No branches - 1 (direct ro Block V) b. Main offices - 2 (direct to Block V) c. Branches - 3	
10. Name of main office :	
11. Address of the main office : Street : Village : Kecamatan : Kabupaten/Kota Province : Telephone number : Email :	
	Post code : Fax number : Web site :

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V. INFORMATION ABOUT AGRICULTURE ACTIVITY				
1. Area controlled (hectare) :				
2. Information about enterprise in paddy, secondary crops, horticulture, forest cutting log, forest planting log and fish culture at the enumeration date				
Type of crops/fish/other biotic	Unit Hectare - 1, m2 - 2		Acreage of land	
(1)	(2)		(3)	
a.				
b.				
c.				
d.				
e.				
3. Information about live stock and poultry enterprise				
Type of live stock/poultry	Unit Tail - 1 number/day - 2	Mother	Non mother	Total
(1)	(2)	(3)	(4)	(4)
a.				
b.				
c.				
d.				
e.				
Minimum limit for live stock and poultry enterprise				
Type	limit	Type	Limit	
Slaughter cow/horse/ buffaloes	100 mothers or 250 mixed	Chicken egg layer	2500 mothers or 1500 eggs per day	
Sheep/lamb	50 mothers or 300 mixed	Chicken broiler	375 mothers or 19500 per year	
Pig	25 mothers or 125 mixed	Duck/goose	15000 mothers or 25000 mixed	
Deer	300 mothers or 1500 mixed	Turkey	10000 mothers or 25000 mixed	
Rabbit	1500 mothers or 5000 mixed	Quail	10000 mothers or 25000 mixed	
Milk cow	10 lactate cows or 20 mixed			

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4. Information about catching fish enterprise at the time of enumeration :					
	Type of ships				
	Motor boat	Motor ship 39 GT	Motor ship 30 - 49 GT	Motor ship 50 - 99 GT	Motor ship 100 GT +
(1)	(2)	(3)	(4)	(5)	(6)
Number					

## V. INFORMATION ABOUT AGRICULTURAL ACTIVITY

1. Evaluation of the visit, this enterprise is :

a. Active	- 1	Not filling the sufficient condition	- 5
b. Preliminary closed	- 2	Change activity	- 6
c. Not production yet	- 3	Can not be found	- 7
d. Closed	- 4		

2. If item 1 coded 1, 2 or 3 the location of the enterprise :

Fixed address	- 1
Change address	- 2
New entry	- 3

3. People contacted :

Name :  
Occupation :

THIS QUESTIONNAIRE IS FILLED IN CORRECTLY AS IT IS

It is certified by

Name :

Occupation :

Enumerator

(Signature and mark)

( Identification number )

## VII. NOTES

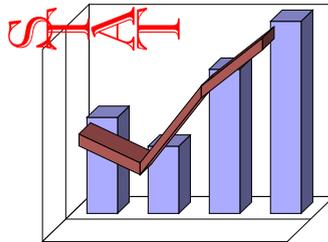
**PREPARATIONS  
FOR AGRICULTURE CENSUS 2003:  
PROGRESS REPORT 4**

Report # 61

by

**Suwandhi Sastrotaruno**

September, 2002



**Statistical Assistance to the Government of Indonesia (STAT) Project**  
USAID Contract No. PCE-I-00-99-00009-00

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## I. INTRODUCTION

This is the fourth progress report on preparations for the Agriculture Census 2003 through the middle of September, 2002. Section II discusses data collection on the Village Potential survey activities. Section III covers issues relating to the general rehearsal planned for North Sumatra. Finally, Section IV discusses briefly other outstanding issues. The main recommendations at this point are: a) to actively notify potential users that census preparations are almost completed and thus solicit their final comments; and b) to lobby aggressively with the main players to provide funding for 100% enumeration.

## II. DATA COLLECTION OF VILLAGE POTENTIAL

The planned timetable for data collection activities of the Village Potential survey is provided in Table 1.

**Table 1**  
**Timetable of Village Potential Data Collection Activities**

Description	Start	Completion
Sending documents from BPS to provinces	3 June 2002	15 June 2002
Sending documents from provinces to districts	13 June 2002	27 June 2002
Discussions with Instructors	10 June 2002	14 June 2002
National instructors training	24 June 2002	26 June 2002
Regional instructors training	1 July 2002	12 July 2002
Training of interviewers	16 July 2002	24 July 2002
Conducting Interviews	1 August 2002	29 August 2002
Interview supervision	2 August 2002	31 August 2002
National training for data processing	5 August 2002	9 August 2002
Regional training for data processing	19 August 2002	23 August 2002
Regional data processing	31 August 2002	28 September 2002
Regional compilations and tabulations	1 October 2002	14 October 2002
Socialization of regional results	15 October 2002	22 October 2002
Sending results to the central BPS office	16 October 2002	26 October 2002

Data collection is supposed to cover all rural villages (*desa*) and urban villages (*kelurahan*) whether they are already “approved” (*definitif*) or “in the process” of approval (*persiapan*). “Approved” villages are defined as those chosen by the relevant Governor and already approved by the Ministry of Internal Affairs, while those “in the process” of approval are those not yet approved by the Ministry of Internal Affairs. Data collection will also include:

- Transmigration Settlement Units (*Unit Permukiman*)

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*Transmigrasi*): these are remote locations, occupied by transmigrants, and not having a formal administrative status yet.

- Developing Society Settlements (*Permukiman Masyarakat Terasing*): these are areas, primarily isolated, which are under-developed.

It was unfortunate that BPS was unable to get a support letter from the Minister of Internal Affairs, but hopefully this will not affect data collection. The final version of the questionnaire for this survey is provided in Appendix A.

### III. GENERAL REHEARSAL IN NORTH SUMATRA

#### A. Coverage

The general rehearsal for the 2003 Agricultural Census will be conducted in North Sumatra and will cover three sub-districts in three separate districts (see Table 2).

**Table 2**  
**Coverage of the General Rehearsal in North Sumatra**

District	Labuhan Batu	Asahan	Deli Serdang
Sub-district	Kualuh Selatan	Bandar Pulau	Pantai Labu
<b>Number of Census Blocks</b>	106	120	81
<b>Food crops</b>			
- Census Blocks	103	96	76
- households	4677	2273	2989
<b>Estate crops</b>			
- Census Blocks	87	87	26
- households	2100	2247	90
<b>Fishery</b>			
- Census Blocks	29	10	53
- households	131	12	1166
<b>Animal husbandry</b>			
- Census Blocks	8	2	34
- households	10	3	169
<b>Others</b>			
- Census Blocks	45	53	42
- households	453	662	747

The selection of sub-districts was based on the completeness of available sub-sectoral information

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and location. However, this choice has two weaknesses:

- Estimation in the census will be made at the district level, while in the general rehearsal it is done at the sub-district level. This was dictated by budget considerations: the general rehearsal budget was designed for only 300 census blocks but Labuhan Batu alone has 1761 census blocks, Asahan has 1963 blocks and Deli Serdang has 4231.
- Coverage of all sub-sectors in the general rehearsal is too complicated to be conducted in only one round. Given the number of households involved in more than one (sub-sectoral) activity, the risk is high that one household may be selected to represent more than one sub-sector. It is preferable to cover the household population in two rounds:
  - a. The first would cover secondary crops, horticulture and animal husbandry, where most farmers engage in all three activities, and
  - b. The second would cover estate culture, fishery, forestry and hunting where activities are usually carried out in different distinct locations.

## B. Timetable

The timetable for the general rehearsal is presented in Table 3.

**Table 3**  
**General Rehearsal Timetable**

<b>Description</b>	<b>Date</b>
National instruction training	9-12 September 2002
Regional training for listing and paddy	15-20 September 2002
Recapitulation of Quick Processing of L2	31 Sept - 19 Oct 2002
Regional Processing of L1, L2, and LKOC	23 Oct up to 30 Nov 2002
Sample selection for non-paddy	16 - 20 Oct 2002
Recruitment of enumerators for non-paddy	20-27 Oct 2002
Training of enumerators for non-paddy	28 Oct - 1 Nov 2002
Enumeration of non-paddy	2-20 Nov 2002
Processing of non-paddy	December 2002
Tabulation of L2	1 - 5 December 2002
Other sub-sector tabulation	January 2003

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### **C. Listing Preparation**

Two types of listing will be done:

- manual listing: by using questionnaires ST03-L1 (see Appendix B) and ST03-L2 (Appendix C). These questionnaires are the same as those used in the third pilot which was held in South Sulawesi. Therefore the same computer processing programs could be used.
- scanning: of questionnaires ST03-KBL2 (Appendix D) and ST03-L2 (Appendix E).

The use of scannable questionnaires is attempted to determine whether to apply them system-wide or not.

### **D. Paddy Data Collection**

Households engaged in paddy cultivation will be selected based on form ST03-L1. The selected household will then be enumerated with ST03-PADI (Appendix F). It is still possible to simplify the ST03-PADI questionnaire by eliminating:

- Block III B items 1b, 2b, 8b and 9b
- Block IV item 4 (it is too complicated)
- Block VI A item 16b, because the concept of "adequacy" (*sesuai*) is not clear
- Block VII

### **E. Other Sub-Sector Data Collection**

It is recommended that the sub-sectoral data collection be done over two rounds, with secondary crops, horticulture and animal husbandry, for example, undertaken in 2004, and forestry, fishery and estate crops several months, or even one year, later.

In the actual Census, selection of census blocks for each sub-sector should be based on the results of ST03-L2, unlike the general rehearsal, in which selection was based on the Population Census 2000, the only available data to date. That assumes that processing of the ST03-L2 forms will be completed as scheduled, in November 2002.

The final structure of the questionnaires to be used for other sub-sectors is provided in Table 4. Block V should allow estimation of the population and of production for each crop handled by the households. These results can then be used to replace the rough production estimates that had been reported by the agricultural extension services at the sub-district level.

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From Block VI we could obtain figures on the cost structure of selected commodities in a particular district. However, I believe that the time reference used is still confusing; one refers to cost of one year ago, while the other refers to the last harvest. It is preferable if the only reference made was to the last harvest only, with an indication of the length between the last two harvests. If one commodity has no harvest at all during the year, then the cost cannot be considered an expenditure on intermediate inputs, but rather on investment.

**Table 4**  
**Structure of Questionnaires for Other sub-sectors**

<b>Block</b>	<b>Description</b>
I	Identification
II	Enumerator/Supervisor information
III.A	Information about household members
III.B	General information about household
IV	Land controlled and used
V	Information about population and/or production of a year ago
VI	Detailed information about crops selected
VII	Income and receipt of the household one year ago
VIII	Notes

Households engaged in other sub-sectors will be selected based on the processing of the listing ST03-L2 and ST03-LKOC (see Appendix F) by ST03-LK (see Appendix G). This worksheet was designed to be a substitute for the listing that will be done during the real enumeration. This system is expected to provide a better estimate for each district as it covers regionally ranked commodities, which can differ from one region to another.

#### **IV. OTHER ISSUES**

Three issues remain, which need further consideration:

- Before conducting the general rehearsal, BPS needs to invite the whole Agricultural Census Team and present all the questionnaires and manuals to the team in order to finalize all forms to be used in the actual census.
- To sustain the effort to obtain funding for a complete census, BPS

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should continue to engage the Ministry of Finance, Ministry of Agriculture, Ministry of Forestry, Ministry of Fishery and Sea and the Parliament Fiscal Commission in discussions of required budgets.

- A letter of support from the Minister of Internal Affairs, Minister of Forestry, Minister of Fisheries should be requested so that regional data collection would be supported by Provincial Governors and their District Officials.



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III. GENERAL INFORMATION ABOUT THE VILLAGE		
Number	Description	Code
301	Status of the village Definitive -1 Integrate d settlement unit -3 Preparation - 2 Developing society settlement -4 If "3 or 4" direct to 306	
302	If item 301 coded "1" village classification: Traditional - 1 Developing -3 Transitional -2	
303	If the item 302 code "1" or "2" the status of village: Rural -1 municipal - 2	
304	Is there any Village counselor ? Yes -1 No - 2	
305	The category of the village counselor : Preparation - 1 Category two - 3 Category one - 2 Category three - 4	
306	If item 301 coded "2, 3 or 4", name the base of village	
307	a. Is there any household/regional grouping Yes - 1 No - 2 ( item 307c) b. If there is, fill in the number of regional grouping (RK) ..... household grouping (RT)..... c. <b>Name of other unit of grouping besides RT/RW .....</b>	
308	Village geographical area Coast - 1 Item 309 <b>Not coast -2</b> If not coast - river flow area -1 - trap/mountainous -2 - plain/flat -3	
309	Village topography Flat/plain -1 Mountainous - 2	
310	<b>Height of village from sea level ?</b>	
311	<b>The average depth of well ?</b>	
312	Is there any special building for village office ? Yes -1 No -2	
313	Distance from center of village to the sub-district (km)	
314	Distance from center of village to the district (km)	
315	Distance from center of village to the capital of the nearest district (km)	

IV. POPULATION AND MANPOWER		
Number	Description	Code
401	Population registration implementation None - 1 Exists and done regularly -2 Exists but not done regularly - 3	
402	Population and households 1. Number of male population 2. Number of female population 3. Number of households 4. Percentage number of households engaged in agriculture	
403	a. Number of developing and under-developed family condition of year ..... b. The condition of developing and under-developed families if compared with previous year : More -1 Less -3 Same -2 Don't know -4	
404	a. . Are there any people from this village who moved out from the village Yes -1 No -2 b. If the answer "yes" where are they working/studying Abroad -1 Another districts -4 Another province -2 Another village -8	

405	a. Are there any people who are not members of this village who moved working/studying in this village Yes -1 No- 2 b. If the answer "yes" where did they come from Abroad - 1 Another district -4 Another province - 2 Another village -8	
406	Population of unemployed in this village ?	
407	a. The main source of income of the majority of the population Agriculture -1 Mining and quarrying -2 Manufacturing -3 Trade, restaurant and accommodation - 4 Other -5 b. If item 405 is coded "1", mostly are engaged in : Paddy/secondary crops -1 Sea Fishery .....5 Horticulture -2 Estate crops -6 Animal husbandry - 3 Forestry - 7 Inland Fishery .....4 Other 8 c. If 407 b was not coded "5" or "8" the percentage of land operated are : (1) owner and land operator ..... Percent (2) Only operator .....percent (3) Farm labor ..... percent	

V. HOUSING AND LIVE ENVIRONMENT

Number	Description	Code
501	Number of households purchasing electricity 1. Governmental Electricity ..... households 2. Private Electricity ..... households	
502	a. Is there any road light at the main village street ? Yes -1 No -2 b. If "yes", the type of light : Government electricity -1 Private electricity -2 Non electricity -3	
503	Most of the households are cooking by : LPG (town gas) - 1 Wood -3 Kerosene - 2 Other -4	
504	Most of the households send their garbage to : Garbage can and then pick it up - 1 On hole or burnt -2 Throw it in the river -3 Other (Specify) ..... 4	
505	Most of the households' rest rooms ? Own rest room - 1 Public rest room - 3 Joint rest room -4 Other -4	
506	Most of the drainage for water waste ? Quite good - 1 Stagnated - 3 Not quite good - 2 No drainage - 4	
507	Number of housing by quality Permanent Non permanent	
508	a. Is there any river through the village ? Yes -1 No -2 2. If "yes" the water of the river is used for 1) Bathing/washing Yes -1 No -2 2) Drinking Yes -1 No -2 3) drinking raw material Yes -1 No -2 4) Irrigation Yes -1 No -2 5) Industrial usage Yes -1 No -2 6) Transportation Yes -1 No -2 7) Other (Specify) Yes -1 No -2	
509	a. Are there any households living on the river side ? Yes -1 No-2 b. If "yes" how many households .... How many housing structures ....	

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510	a. Are there any households living under high voltage electricity (more than 500 KV) Yes -1 No-2 No high voltage electricity -3		
	b. If "yes" how many households .... How many housing structures/buildings ....		
511	a. Are there any vile settlement? Yes - 1 No-1		
	b. If "yes" 1. Number of locations .... 2. Acreage ..... 3. Number of physical buildings ..... 4. Number of households ...		
512	a. Are there any manufacturing industries ? Yes-1 No-2		
	b. If "yes" most of the waste were sent to 1. Waste disposal installation - 1 2. Land - 2 3. River -3 4. Other -4		
513	Were there any environment disturbances last year		
	Type of disturbance	Yes -1 No -2	If "yes" any complaint Yes -1 No -2
	1. Water pollution 2. Land pollution 3. Air pollution or bad smell 4. Reduction of green area 5. Sound pollution		
514	Any natural disasters in the last three years?		
	Type of disaster	Yes - 1 No - 2	If column (2) is coded (1), how many times
	(1)	(2)	(3)
	a. Earthquake b. Landslide c. Flood		Earthquake Landslide Flood
515	a. Is this village an earthquake area ? Yes-1 No - 2		
	b. Is there any location in this village which is a landslide area? Yes -1 No-2. If "yes" how many households live in the area ?		
	c. Is there any location in this village which is a flood area? Yes -1 No-2. If "yes" how many households live in the area ?		
	d. Is there any location in this village which is a ..... disaster area (specify) ? Yes -1 No-2. If "yes" how many households live in the area ?		
516	a. Are there any households living in the protected area ? Yes - 1 No-2.		
	b. If "yes" how many households live in the area ?		
517	a. Are there any critical lands ? Yes - 1 No -2		
	b. If "yes" how big is the area ? How many households live in the area ?		
518	What is the location of this village ? In the forest - 1 At the edge of forest -2 Out of the forest -3		
519	Are there any mining or quarrying in the village ? Yes - 1 No -2		
	Kind of mining/quarrying	Yes-1 No-2	Exploited - 1, not yet -2
	1. Stone/coral 2. Sand 3. Lime 4. Sulphur 5. Kaolin 6. Quartz sand 7. Clay 8. Other (Specify)		

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VI. EDUCATION				
Number	Description			Code
601	Type of school	Number of School		If "none" distance to the nearest
		Government	Private	
	a. Kindergarten b. Primary School c. Secondary school d. High school e. Vocational School f. Academy/university g. Special School h. Moslem school i. Christian School			
602	Is there any program of :			
	a. Package A for illiterate	Yes - 1	No -2	
	b. Package A equivalent to primary school	Yes - 1	No -2	
	c. Package B equivalent to secondary school	Yes - 1	No-2	
603	Number of primary school students			
604	Educational institution in the village			
	Type of knowhow		Yes - 1 No - 2	If yes "how many"
	(1)		(2)	(3)
	Language course Book keeping course Computer course Cooking/ food science course Sewing or fashion course Make up course Mechanical for car/motor course Electronic course			

VII. HEALTH, NUTRITION AND FAMILY PLANNING				
Number	Description			Code
701	Kind	Number	If "none" the distance to the nearest facilities	Ease to the facilities Very easy -1 Easy - 2, Difficult -3 Very difficult - 4
	1. General hospital 2. Maternity hospital 3. Polyclinic/Health Care 4. Social Health Center 5. Semi-Social Health Care 6. Physician Practice 7. Midwife Practice 8. Integrated health services 9. Village maternity 10. Dispensary 11. Village drugstore 12. Special drugstore/ herb shop			
702	Is this village generally visited by "rotational Social Health Care" routinely ?			Yes -1 No - 2
703	Medical specialist available in the village :			
	a. 1. Male physician 2. Female physician 3. Midwife 4. Trained traditional midwife 5. Untrained traditional midwife			
704	a. Number of households who got "poor certificate" b. Number of poor certificates issued compared to last year More - 1, same - 2, Less - 3			
705	Number of households given "Health Card" one year ago.			

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706	Type of epidemy a year ago	Yes-1 No-2	How many died
	1. Diarrhea 2. Dengue fever 3. Respiratory infection 4. Small pox 5. Fever 6. Other ( Specify)		
707	Is there any case of hunger, malnutrition , marasmus a. Children less than 5 years Many - 1, small - 2 None - 3 b. Other Many - 1, Small - 2, None -3		
708	Number of Family Planning acceptors ?		
709	a. Water for cooking or drinking is coming from Mineral water/governmental institute -1 Manual or electrical pump -2 Well -3 water spring -4 river/lake -5 rain -6 other (specify ....) -7 b. Does most of the village population buy water for drinking? c. Water need for bathing/washing is coming from Mineral water/governmental institute -1 Manual or electrical pump -2 Well -3 water spring -4 river/lake -5 rain -6 other (specify .....)-7		

VIII. SOCIAL - CULTURE

Number	Description	Code	
801	Number of praying places: a. Mosque b. Smaller mosque c. Protestant church d. Christian church e. Hindu's temple f. Buddhist monastery g. Chinese temple		
802	Social institution activity a. Social institution 1. Boys scouting Yes - 1 No-2 2. Youth group Yes -1 No-2 3. Household group Yes-1 No-2 4. Religious group Yes-1 No-2 5. Orphanage house Yes -1 No-2 6. Old people institution Yes -1 No-2 7. Institution for the Handicapped Yes -1 No-1 b. Social activity 1. "arisan" Yes -1 No-2 2. working group cooperative Yes-1 No-2 3. Islamic taxation institution Yes-1 No-2 c. Agricultural Social Activity 1. Usage water for irrigation Yes-1 No-2 2. Farm group Yes-1 No-2 3. Fish catching group Yes-1 No-2 4. Young Farmer group Yes-1 No-2 5. Agricultural extension Yes-1 No-1 6. Animal Husbandry effort group Yes-1 No-2		
803	Any handicapped persons?	Number of handicapped staying with population	Number of handicapped staying at the institution
	(1)	(2)	(3)
	a. Blind b. Deaf-dumb c. Mental handicap d. Can't walk e. Multiple handicap		
804	Number of libraries		
	Non-Governmental Institution		

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805	Type	Availability Yes - 1 Non - 2	A c t i v i t y Yes-1 No-2
	(1)	(2)	(3)
	a. Environmental b. Female c. Children d. Law and humanities e. Other (specify)		
806	Religion in this village : Moslem -1 Christian - 2 Catholic -4 Hindu -8 Buddhist -16, Konghucu 32 Other (Specify.....) -64		
807	Majority Religion in this village : Moslem -1 Christian - 2 Catholic -3 Hindu -4 Buddhist -5, Konghucu 6 Other (Specify.....) -7		
808	Is there any "belief group" in this village ? Yes-1 No-2		
809	Is this village occupied by more than one ethnic group? Yes - 1 No - 2		
810	Majority of ethnic groups in this village .....		
811	Were there any marriages between ethnic groups in this village ? Yes 1 No 2		
812	Is there any traditional leadership institution ("lembaga adat") in this village Yes-1 No-2		
813	Are there ay archaeological sites a. Building Yes-1 No-2 b. Bridge Yes-1 No-2 c. Temple Yes-1 No-2 d. Harbor Yes-1 No-2 e. Station Yes-1 No-2 f. Spiritual place Yes-1 No-2 g. Other (specify .....) Yes-1 No-2		

IX. RECREATION, ENTERTAINMENT, ART AND SPORT

Number	Description	Code
901	Open field for playing Yes -1 No-2	
902	Commercial recreation or entertainment? a. Natural 1. Sea .... Unit 2. Other ..... Unit b. Culture c. Other	
903	a. Theater ... unit b. If "No" the distance to the nearest theater ..... km	
904	a. Video Rental unit b. If "No", the nearest video rental ..... km	
905	a. Billiard house .... Unit b. If "No", the nearest billiard house ..... km	
906	a. Discotheque house .... unit b. If "No", the nearest discotheque house ..... km	
907	Is there any local prostitution ? Yes-1 No-2	
908	Are there any art groups? Yes - 1 No-2 911	
909	If the answer "yes" the type of art (if more than one, select the main art) Music - 1 Dance - 2 Beauty pageant -4 theater -8 Traditional shadow play -16 Other 32	
910	a. The "main art" Music - 1 Dance - 2 Beauty pageant -3 theater -4 Traditional shadow play -5 Other 6 b. Do these organizations accept money during their play ? Yes -1 No-2	

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911	People plays and stories a. Number of people plays performed ... b. Number of people stories performed		
912	Place for art and culture performance : a. Cultural park Yes-1 No-2 b. Art/cultural building Yes -1 No- 2 c. Gallery yes-1 No-2 d. Cultural center Yes-1 No-1 e. Other yes-1 No-2		
913	Sport		
	Type of Sport	Court Yes -1 No -2	Group Yes -1 No -2
	(1)	(2)	(3)
	a. Soccer b. Volleyball c. Badminton d. Basketball e. Tennis f. Swimming g. Table tennis h. Self defense (karate etc)		

## X. TRANSPORTATION

Number	Description	Code
1001	Type of roads in the village a. Most of the village area can be reached by Land -1 water -2 1002 air -3 1002 b. If can be reached by land transportation 1. Most of the road surface is Asphalt -1 Hardened -2 land -3 other -4 2. Is it possible to use vehicles with 4 or more wheels Yes -1 No-2 c. Is there any wood log transportation ? Yes-1 No-2	
1002	Mode of transportation (used by most people) to the nearest sub-district or town 01. Commercial bicycle Yes -1 No -2 02. Commercial becak yes - 1 No-2 03. Horse/cow cart Yes -1 No-2 04. Commercial, motorcycle Yes -1 No-2 05. Commercial, bajaj Yes-1 No-2 06. Commercial, 4 or more wheels Yes-1 No-2 07. Non-motor boat Yes-1 No-2 08. Out board motor Yes-1 No-2 09. Motor boat Yes-1 No-2 10. Other (Specify ..... ) Yes-1 No-2	
1003	From item 1002, which one is the main mode of transportation ?	
1004	a. Are there any bridges that could be passed by four-wheel vehicles in this village ? Yes- 1 No-2 1005 b. If the answer "yes" it was made by : Iron/concrete -1 Wood/bamboo -2 Combination - 3	
1005	Transportation infrastructure available in the village a. Terminal for 4-wheel transportation Yes-1 No-2 b. Harbor/pier Yes-1 No-2 c. Air port Yes-1 No-2	

## XI. COMMUNICATION AND INFORMATION

Number	Description	Code
1101	How many households are telephone subscribers ? ...	
1102	Are there any card or coin telephones? Yes -1 No-2	

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1103	How many telephone/post/tourist shops .... unit	
1104	How many internet shops ... unit	
1105	a. Post office or his branches Yes-1 1106 No-2 b. If "no" what is the distance to the nearest post office?	
1106	Travel around post office ? Yes-1 No-1	
1107	Number of households owning TVs ..... households	
1108	TV programs available a. TVRI b. Private TV channel 1. TPI 2. RCTI 3. SCTV 4. Indosiar c. Foreign channel	
1109	a. News subscribers Yes-1 No-2 to item 1109c b. If Yes, type of news : Local -1 National - 2 Local and national -3 c. Type of magazines available in the village : Political yes-1 No-2 Religious Yes-1 No-2 Life style Yes-1 No-2 Other Yes-1 No-2	

XII. LAND CONTROLLED AND ITS USE

Number	Description	Code
1201	Acreage of the village ..... hectares	
1202	Total wet land area used ..... hectares a. Irrigated wet land used b. Non irrigated Wet land used c. Wet land temporarily not used	
1203	Total dry land area : ..... hectares a. arable land b. Used for estate crops c. People forest d. Housing and settlements e. For manufacturing industry f. For office and shopping etc. g. Other (not included governmental forest) h. Dry land temporarily un used	
1204	Parts of the village which are : a. Village land for official use b. Village land for cash crops c. Private ownerships d. For religious or community use e. Cemetery	
1205	Change of status in the last three years, from wet land to a. Agricultural dry land b. Housing c. Manufacturing industry d. Office building e. Other (Specify)	
1206	Change of status in the last three years, from dry land to a. wet land b. Housing c. Manufacturing industry d. Office building e. Other (Specify)	

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1207	Change of status in the last three years, from brackish water ponds/ wet land to d. Housing f. Manufacturing industry g. Office building h. Other (Specify)	
1208	Change of status in the last three years, from forest to a. wet land b. Housing c. Manufacturing industry d. Office building e. Other (Specify)	
1209	Percentage of land in the village controlled by a. The owner (including from other villages) b. The owner and also farmers c. Farmer/renter	

XIII. AGRICULTURE

Number	Description			Total
1301	The potential of food crops, ornamental crops, herbs last year a. How many households engaged in food crops ? B. Number of agricultural enterprises?			
	Type of crops	Code	Area (ha)	Production (ton)
	Paddy and secondary crops Paddy Corn Soya beans Cassava Sweet potato Peanuts Other (specify.....)			
	B. Vegetables a. .... c. .... d. .... e. ....			
	B. Fruits a. .... c. .... d. .... e. ....			
	B. Ornamental Crops a. .... c. .... d. .... e. ....			
	B. Herbs a. .... c. .... d. .... e. ....			
1302	The potential of estate crops in the village during last year a. How many households engaged in estate crops ? b. Number of estate crops enterprises ?			
	Type of crops	Code	Area (ha)	Production



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XIV. AGRICULTURAL MACHINERY		
Number	Description	Code
1401	Number of land tractors: a. two wheel tractors b. four wheel tractors	
1402	Number of machinery for killing pests a. Sprayer b. Duster c. Rat blower d. Other	
1403	Number of machinery for paddy processing a. Paddy thresher b. Paddy dryer c. Rice cleaner d. Huller e. Rice whitener f. Small rice milling Unit g. Rice milling unit h. Big rice milling unit	
1404	Number of machinery for corn processing a. corn remover from cob b. rice making of corn c. flour making of com	
1405	Number of machinery for cassava processing a. Cassava scrapper b. Chip making c. Pellet making d. Tapioca processing	
1406	Number of machinery for rubber processing a. Unsmokeed rubber milling b. Smoke house c. Re-milling d. Crumb rubber factory	
1407	Number of sugar cane processors a. machinery processing b. non-machinery processing	
1408	Number of ships/boats for fish catching a. Motor boat b. Out board motor c. Non motor boat	
1409	Number of cold storage units	

XV. ECONOMIC CONDITIONS		
Number	Description	Code.
1501	Number of shops ..... units	
1502	a. Shopping center Yes-1 1503 a. No - 2 b. If "no", the distance to the nearest shopping center .....	
1503	a. Market building permanent or semi-permanent Yes-1 No-1 b. If "no", the distance to the nearest shopping center	
1504	Market with no permanent building	
1505	Supermarket/self-service market	
1506	Restaurant/eating place/food services	
1507	Animal market	
1508	Animal Butcher	
1509	Fishery landing place	
1510	Fishery Auction place	
1511	Hotel/inn etc	

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1512	Small scale/household manufacturing industry			
		Number of workers		
	Type of small scale/home industry	Children Yes-1 No-2	Female Yes-1 No-2	Number of units
	(1)	(2)	(3)	(4)
	a. for leather processing b. for wood processing c. For metal processing d. Ceramic/ plaiting etc e. Embroidery/weaving f. Food g. Other .... (specify)			
1513	Public bank			
1514	People Credit Bank			
1515	a. Is there any household who has received credit facility ? Yes-1 No-2 item 1516 b. If the answer "yes", the credit facility received: 1. Food security Yes-1 No-2 2. Small Scale Credit Yes-1 No-2 3. House Ownership Credit Yes-1 No-2 4. Sugar Intensification Credit Yes-1 No-2 5. Other (Specify)..... Yes-1 No-2			
1516	Cooperative : a.. Village Cooperative Units ..... units b. Other Cooperative ..... units			
1517	Does this village have any oil compensation ? Yes-1 No-2 Don't know 3			

XVI. VILLAGE FINANCIAL STATUS AS OF 31 DECEMBER 2001

Number	Description	Amount ( 000 Rp)
1601	Financial Status: a. From last year financial year b. Receipt c. Expenditure d. Expenditure for Development	
1602	Village own income a. Village cash land b. Village market c. Taxation d. People self support e. "Gotong royong" f. Others.	
1603	Government aid a. Central government b. Provincial government c. District government	

XVII. POLITICS AND PEACEFULNESS

Number	Description	. Code
1701	Write down the three biggest votes cast for political parties in the last general election ? 1..... 2..... 3...	
1702	Are there any political party branches in this village? Yes-1 No-2	
1703	Were there any conflicts in this village for last year ? Yes-1 No-2 1605	

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1704	a. If "yes", what was the type of conflict ? Fight between members of the society -1 Fight between members of society and state apparatus -2 Fight between student/scholars -3 Fight between ethnic groups -4 Other (Specify ..... ) -5 b. If "yes", what the last year conflict took place New one -1 Old one -2 c. Number of victims People died ..... Persons Wounded ..... persons d. Were the conflicts settled peacefully ? Yes-1 No-2 item 1705 e. If 1604 d "yes" was settled by : Society -1 village apparatus -2 Defense apparatus -3		
1705	Type of crime last year		
	Type of crime	Were there any cases Yes-1 No-2	Crime trend Decreased-1 Same-2 Increased-3
	1. Stealing 2. Robbery 3. Pillaging 4. Torture 5. Burning 6. Rape 7. Narcotics 8. Killing 9. Other (Specify)		
1706	Were there any suicides last year ? Yes-1 No-2 1707		
	Number of people committing suicide	Male	Female
	a. Children b. Adolescents c. Adults		
1707	Efforts to make the village peaceful last year: a.. Building a post in a smaller circle Yes-1 No-2 b. Creating a security group in a smaller area Yes-1 No-2 c. Adding the number of guards Yes-1 No-2 d. Inspecting any stranger coming in Yes-1 No-2 e. Other (Specify .... ) Yes-1 No-2		
1708	Structure of peace keeping	Yes-1 No-2	If "no" The closest area (km) Ease to reach : Very easy -1, Easy-2 Difficult 3, Very difficult -4
	a. Defense post b. Police post		

XVII. VILLAGE APPARATUS DURING THE ENUMERATION

1801	Village apparatus	Yes-1 No-2	Age	Male -1 Female-2	The highest education *)
	a. Village chief b. Village secretary c. Governmental section d. Development section e. Social section f. Financial section g. General section h. Marriage section				
1802	Length of enumeration				

\*) Did not complete primary school -1, Primary school -2,  
 Junior high school -3, Senior High School -4, Academic - 5  
 University - 6

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XVIII. NOTES

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**APPENDIX B****ST03-L1**

REPUBLIC OF INDONESIA

**2003 AGRICULTURAL CENSUS****BUILDING AND HOUSEHOLD LISTING***Confidential*

Number set of ... from ... sets

I. LOCATION IDENTIFICATION	
1. Province	
2. District/Municipality	
3. Sub district	
4. Village	
5. Village classification	Urban – 1 Rural – 2
6. Number of census block	
7. Sample Code Number	
8. Local environmental unit	

II. SUMMARY	
1. Number of Households registered in Population Census questionnaire SP2000-L1 (Fulfill by district/municipality office)	
2. Number of household listed (Block IV column (4) the last number of the last pages)	

III. OFFICIAL INFORMATION		
Description	Enumerator	Supervisor
1. Name of the official		
2. Date of enumeration/supervision		
3. Signature		



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**APPENDIX C****ST03-L2**

REPUBLIC OF INDONESIA

**2003 AGRICULTURAL CENSUS****LISTING OF AGRICULTURAL HOUSEHOLD  
GENERAL REHEARSAL IN NORTH SUMATRA***Confidential*

Province	District	Sub district	Village	Classification Of village	Block census number	Census Block Serial Number

Segment number	Physical building number	Census building number	Household number

Name of the head of the household ..... Length of enumeration : .....

I. LAND CONTROLLED AND USED DURING ENUMERATION			
A. Land controlled		B. Land used	
Description	Land area (m2)	Description	Land area (m2)
(1)	(2)	(3)	(4)
1. Land owned		1. Arable land	
2. Land from other party		b. wet land	
3. Land at other party		a. Not wet land	
4. Total land controlled (item 1+2-3)		2. Non Agricultural land	
		a. House and its surrounding	
		b. "sleeping land"	

II. AGRICULTURAL COMMODITIES RUN BY HOUSEHOLDS (for seasonal crops fill in one year ago, for annual crops and animal husbandry during the enumeration)		
Is there any member of the household engaged in maintaining crops and/or animal husbandry		
Description	Yes-1 No-2	If "yes", write down the type of commodity
(1)	(2)	(3)
1. Paddy		
2. Secondary crops		
3. Horticulture		
4. Estate crops		
5. Forestry		
6. Animal Husbandry		

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III. INFORMATION ON HOUSEHOLD ENGAGED IN PADDY AND SECONDARY CROP CULTIVATION		
Fill in area of paddy and secondary crop cultivation which is controlled by the household		
Type of crops	Code	Area of crops a year ago (m <sup>2</sup> )
(1)	(2)	(3)
1. Paddy		
a. irrigated land paddy	101	
b. un irrigated land paddy	102	
c. dry land paddy	103	
d. Main paddy engagement		
2. Secondary crops		
a. Corn	104	
b. Soya bean	105	
c. Peanut	106	
d. Mung beans	107	
e. Cassava	108	
f. Sweet potato	109	
g.		
h.		
i.		
j. The main secondary crops		

IV. INFORMATION ON HOUSEHOLD ENGAGED IN HORTICULTURE							
For seasonal crops fill in for the past year, while for annual crops fill in amount at the enumeration date							
A. Fill in number of trees/bundles/areas of horticulture (vegetables, fruits, ornamental and herbal trees) controlled by the household							
Type of crops	Code	Units	Number of trees/area of crops Controlled	Is part or only whole product sold or exchanged	For annual crops, fill in number of productive crops	Minimal Limit Of engagement	For seasonal crops is column (4) > (6), for annual crops is column (5) > (6) yes -1, no - 2
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
1. Oranges	267					18	
2. Mangos	270					4	
3. Manggis	271					3	
4. Rambutan	277					2	
5. Bananas	276					12	
6. Onion	202					600	
7. Red chili	209					500	
8. Cabbage	223					300	
B. If all answers in column (7) are coded 2, is that the total activities beyond the limit ? yes -1 no - 2							
C. Can the household be considered as horticulture household yes -1 no - 2							
D. What was the main horticulture crop for this household							

V. INFORMATION OF HOUSEHOLD ENGAGED IN ESTATES
For seasonal crops fill in during the past year, for annual crops fill in amount at the enumeration

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date							
A. Fill in number of trees/bundles/areas of estate crops controlled by household							
Type of crops	Code	Units	Number of trees/area of crops Controlled	Is part or only whole product sold or exchanged	For annual crops, fill in number of productive crops	Minimal Limit Of engagement	For seasonal crops is column (4) > (6), for annual crops is column (5) > (6) yes -1, no - 2
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
1. Palm	615					15	
2. Coconut	616					25	
3. Rubber	613					150	
4. Cloves	605					15	
5. Cashew	607					85	
6. Coffee	623					75	
7. Cocoa	609					30	
8. Tea	638					1000	
9. Pepper	624					15	
10. Tobacco	639					1600	
Other							
B. If all answers in column (7) are coded 2, is that the total activities beyond the limit ? yes -1 no - 2							
C. Can the household be considered as estates household yes -1 no - 2							
D. What was the main estate crop for this household							

VI. INFORMATION ON HOUSEHOLDS ENGAGED IN FOREST CULTIVATION							
A. Fill in number of trees/ bundles/areas of trees controlled by household							
Type of trees	Code	Units	Number of trees/bundle of crops Controlled	Is part or only whole product sold or exchanged	Number of trees/bundle That could be used	Minimal Limit Of engagement	Is number in column (5) > 40? Yes -1 No-2
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
1. Sengon	740					12	
2. Mahoni	730					3	
3. Teak	717					2	
4. Accasia	701					9	
5. Suren	742					3	
6. Sungkai	744					4	
Other							
B. If all answers in column (7) are coded 2, is that the total activities beyond the limit ? yes -1 no - 2							
C. Can the household be considered as forestry household yes -1 no - 2							
D. What was the main forest crop for this household?							

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VI. INFORMATION OF HOUSEHOLD ENGAGED IN ANIMAL HUSBANDRY							
A. Fill in number of animal husbandry controlled by household							
Type of animal	Code	Units	Number of animal husbandry controlled	Is part or only whole product sold or exchanged	For pigs fill in number more than 2 months, for poultry fill number more than 1 month	Minimal Limit Of engagement	For pigs is column (5) > (6), for other poultry is column (4) > (6) yes -1, no - 2
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
A. Big animal							
1. Milk cow	501	Head			2	1	
2. Cow	502	Head				2	
3. Buffalo	503	Head				2	
B. Small animal							
1. Pig	505	Head				3	
2. goat	506	Head				6	
3. Sheep	507	Head				6	
C. Poultry							
1. Race Chick	508	Head				30	
2. Layer	509	Head				12	
3. Broiler	510	Head				12	
B. If all answers in column (7) are coded 2, is that the total activities beyond the limit ? yes -1 no - 2							
C. Can the household be considered as animal husbandry household? yes -1 no - 2							
D. What was the main animal for this households							

VII. INFORMATION ABOUT FISHERY AND OTHER ACTIVITIES			
A. Fishery and other agricultural activity			
Is there any member of the household engaged in:			
Description	Yes-1 No-2	If "yes", Is part or whole product sold or exchanged	If "yes", the area and type of culture
(1)	(2)	(3)	(4)
Fish culture during enumeration period			
a. in the ponds			
b. in wet land			
c. in brackish water			
2. Fish culture at sea during enumeration period			
3. Fish culture in public water during enumeration period			
4. Fish catching in the sea			
5. Fish catching in public water			
6. Hunting animal			
7. Picking forest product			
8. As agricultural service			
B. Other Activities			
Is there any member of the household engaged in :			
Description	Yes-1 No -2		
(1)	(2)		
1. Generally working as agricultural manager			
2. Generally agricultural processor			
3. Generally worked as agricultural labor			

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**APPENDIX D****ST03-KBL2 (SCANNING)**

REPUBLIC OF INDONESIA

**2003 AGRICULTURAL CENSUS****BUILDING AND HOUSEHOLD LISTING***Confidential*

Example of filling

101 Province	102 district	103 Sub district	104 Village	105 Village classification Urban-1 Rural-2	106 Block census number
					B
					K

B General census block

K Preparatory census block

107 Sample Code Number	108 Local Environmental Unit	109 Number of households	110 Number of pages

**III. OFFICIAL INFORMATION**

Description	Enumerator	Supervisor
1. Name of the official		
2. Identification number		
3. Date of enumeration/ supervision		
4. Signature		

**APPENDIX E**

**ST03-L2 (SCANNING)**

REPUBLIC OF INDONESIA

**2003 AGRICULTURAL CENSUS**

DETAILED INFORMATION ON AGRICULTURAL HOUSEHOLD

*Confidential*

Province	District	Sub district	Village	Classification Of village	Block census number	Sample Code number	Segment number

Physical building number	Census building number	Household number

Name of the head of household ..... Length of enumeration : .....

I. LAND CONTROLLED DURING ENUMERATION			
A. Land controlled		B. Land used	
Description	Land area (m2)	Description	Land area (m2)
(1)	(2)	(3)	(4)
1. Land owned		1. Arable land	
2. Land from other party		a. wet land	
3. Land at other party		b. Not wet land	
4. Total land controlled (item 1+2-3)		2. Non Agricultural land	
		a. House and its surroundings	
		b. "Inactive land"	

II. AGRICULTURAL COMMODITIES RUN BY HOUSEHOLD (for seasonal crops fill in for the past year, for annual crops and animal husbandry during enumeration)		
Is there any member of the household engaged in maintaining crops and or animal husbandry?		
Description	Yes-1 No-2	If "yes", write down the type of commodity
(1)	(2)	(3)
1. Paddy		
2. Secondary crops		
3. Horticulture		
4. Estate crops		
5. Forestry		
6. Animal Husbandry		

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III. INFORMATION ON HOUSEHOLD ENGAGED IN PADDY AND SECONDARY CROPS CULTIVATION		
Fill in area of paddy and secondary crops cultivation controlled by the household		
Type of crops	Code	Area of crops (m2)
(1)	(2)	(3)
1. Paddy	101	
a. irrigated land	102	
b. unirrigated land	103	
c. dry land		
d. Main paddy engagement		
2. Secondary crops		
a. Corn	104	
b. Soya bean	105	
c. Peanut	106	
d. Mung beans	107	
e. Cassava	108	
f. Sweet Potatoes	109	
g.		
h.		
i.		
j. The main secondary crops		

IV. INFORMATION ON HOUSEHOLD ENGAGED IN HORTICULTURE							
For seasonal crops fill in during one year ago, while annual crops fill in the amount at the enumeration date							
A. Fill in number of trees/bundles/areas of estate crops controlled by household							
Type of crops	Code	Units	Number of trees/area of crops Controlled	Is part or only whole product sold or exchanged	For annual crops, fill in number of productive crops	Minimal Limit Of engagement	For seasonal crops is column (4) > (6), for annual crops is column (5) > (6) yes -1, no -2
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
1. Oranges	267					18	
2. Mangos	270					4	
3. Manggis	271					3	
4. Rambutan	277					2	
5. Bananas	276					12	
6. Onion	202					600	
7. Red chili	209[					500	
8. Cabbage	223					300	
B. If all answers in column (7) are coded 2, is the total activities beyond the limit ? yes -1 no - 2						D. What was the main estate crop for this household	
C. Can the household be considered as estates household yes -1 no - 2							

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V. INFORMATION ON HOUSEHOLD ENGAGED IN ESTATES							
For seasonal crops fill in for the past year, for annual crops fill in amount during enumeration period							
A. Fill in number of trees/bundles/areas of estate crops controlled by household							
Type of crops	Code	Units	Number of trees/area of crops Controlled	Is part or only whole product sold or exchanged	For annual crops, fill in number of productive crops	Minimal Limit Of engagement	For seasonal crops is column (4) > (6), for annual crops is column (5) > (6) yes -1, no - 2
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
1. Palm	615					15	
2. Coconut	616					25	
3. Rubber	613					150	
4. Cloves	605					15	
5. Cashew	607					85	
6. Coffee							
7. Cacao	623					75	
8. Tea	609					30	
9. Pepper	638					1000	
10. Tobacco	624					15	
Other	639					1600	
B. If all answers in column (7) are coded 2, is the total activities beyond the limit ? yes -1 no - 2						D. What was the main estate crop for this household	
C. Can the household be considered as estates household yes -1 no - 2							

VI. INFORMATION ON HOUSEHOLDS ENGAGED IN FOREST CULTIVATION							
A. Fill in number of trees/ bundles/area of trees controlled by household							
Type of trees	Code	Units	Number of trees/bundle of crops Controlled	Is part or only whole product sold or exchanged	Number of trees/ bundle That could be used	Minimal Limit Of engagement	Is the number in column (5) > 40 Yes -1 No-2
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
1. Sengon	740					12	
2. Mahoni	730					3	
3. Teak	717					2	
4. Accasia	701					9	
5. Suren	742					3	
6. Sungkai	744					4	
Other							
B. If all answers in column (7) are coded 2, is that the total activities beyond the limit ? yes -1 no - 2				D. What was the main forest crop for this household			
C. Can the household be considered as forestry household yes -1 no - 2							

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VII. INFORMATION ON HOUSEHOLD ENGAGED IN ANIMAL HUSBANDRY							
A. Fill in number of animal husbandry controlled by household							
Type of animal	Code	Units	Number of animal husbandry Controlled	Is part or only whole product sold or exchanged	For pigs fill in number of pigs more than 2 months, for poultry fill in for more than 1 month	Minimal Limit Of engagement	For pigs is column (5) > (6), for other poultry is column (4) > (6) yes -1, no - 2
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
A. Big animal							
1. Milk cow	501	Head			2	1	
2. Cow	502	Head				2	
3. Buffalo	503	Head				2	
B. Small animal							
1. Pig	505	Head				3	
2. goat	506	Head				6	
3. Sheep	507	Head				6	
C. Poultry							
1. Race Chick	508	Head				30	
2. Layer	509	Head				12	
3. Broiler	510	Head				12	
B. If all answers in column (7) are coded 2, is that the total activities beyond the limit ? yes -1 no - 2						D. What was the main animal for this household	
C. Can the household be considered as animal husbandry household yes -1 no - 2							

VIII. INFORMATION ABOUT FISHERY AND OTHER ACTIVITIES			
A. Fishery and other agricultural activity			
Is there any member of the household engaged in:			
Description	Yes-1 No-2	If "yes", Is part or only whole product sold or exchanged	If "yes", the area and type of culture
(1)	(2)	(3)	(4)
1. Fish culture during the enumeration date			
a. in the ponds			
b. in wet land			
c. in brackish water			
2. Fish culture at sea during enumeration period			
3. Fish culture in public water during enumeration period			
4. Fish catching in the sea			
5. Fish catching in public water			
6. Hunting animals			
7. Picking forest products			
8. As agricultural services			
B. Other Activities			
Is there any member of the household engaged in :			
Generally working as agricultural manager Yes-1 No-2	Generally agricultural processor Yes-1 No-2	Generally worked as agricultural laborer Yes-1 No-2	

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**APPENDIX F****ST03-PADI**

REPUBLIC OF INDONESIA

**2003 AGRICULTURAL CENSUS****CENSUS SAMPLE OF  
HOUSEHOLD ENGAGE IN PADDY CULTURE***Confidential**Type of crop selected .....*

I. LOCATION IDENTIFICATION	
1. Province	
2. District/Municipality	
3. Sub district	
4. Village	
5. Village classification	Urban – 1 Rural – 2
6. Serial Number of Census Block	
7. Sample Serial Code	
8. Serial Number of Physical building	
9. Serial Number of Census Building	
10. Serial Number of household	
11. Sample serial Number	
12. Name the head of household	

II. OFFICIAL INFORMATION		
Description	Enumerator	Supervisor
1. Name of the official		
2. Identification number		
3. Date of enumeration/ supervision		
4. Signature		

Length of enumeration ..... minutes



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III.B. GENERAL INFORMATION ON THE HOUSEHOLD	
1. a. Is there any member of the household (including the head) who is a member of Village/Agricultural cooperatives \?	
Yes -1 No - 2 b. If "yes" male ..... female .....	
2. a. Has he/she obtained any services from the cooperatives ? Yes-1 No - 2 (Direct to item 4) b. If "yes" male ..... Female .....	
3. If item 2 was coded 1, what type of service?	
Money credit 1 Selling product 8 Input credit 2 Other 16 Output processing 4	
4. Has she/he obtained any credit/capital for paddy cultivation? Yes -1 No -2 (go directly to item 8)	
5. a. Has the credit been wholly paid back? Yes - 1 No - 2 b. Reason why not wholly paid back yet?	
Harvest failure 1 Price fall 3 Still time to pay 2 Other 4	
6. If no credit received, the main reason is:	
No need 1 No collateral process is complicated 5 Don't know the procedure 2 Bank location is quite far 3 High interest rate 4 Other 7	
7. Was there help received other than credit? Yes -1 No- 2 If the answer is "yes" the type of help?	
Seed 1 Agricultural Machinery 8 Fertilizer 2 Other 16 Insecticide etc. 4	
8. a. Has any member of the household received any guidance or counseling? Yes -1 No - 2 b. If "yes" Male ..... Female .....	
c. If "yes" what type: Techniques of paddy culture 1 Paddy processing 4 Post harvest 2 Other 5 Paddy marketing 3	
9. a. Is there any member of the household who is a member of a Farm Group? Yes -1 No - 2 b. If "yes" Male ..... Female .....	
10. During waiting for harvest, what is the type of work done by the member of household:	
Other agricultural activities 1 Non Agricultural Labor 8 Non Agricultural Activities 2 Not working 0 Agricultural labor 4	

IV. LAND CONTROLLED AND USED				
1. Land area at the time of enumeration (square meter)				
Land status	Arable land		Non-agriculture land	Total
	Wet land	Dry land		
(1)	(2)	(3)	(4)	(5)
a. Land owned				
b. Land from other party				
c. Land at other party				
d. Land controlled (a+b-c)				
e. Number of fields controlled				
2. Area of land use for paddy culture (m2)				
3. Wet land controlled by type of irrigation				
a. technical				
b. non-technical				
c. no irrigation				

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4. Rotation of commodity planted in the main field ?			
Area of main field (square meter)	Commodity rotation		
	Sep-Dec 2001	Jan-Apr 2002	May-Aug 2002
(1)	(2)	(3)	(4)
5. a. Were you selling agricultural land five years ago? Yes - 1 No - 2 (go directly to item 6)			
c. Reason for selling land			
c. The land sold was used for			
Agriculture (m2)			
Non-agriculture (m2)			
6. For land controlled by the household, has there been any conversion in last 5 years ? Yes - 1 No -2 (go directly to Block V)			
7. Type of conversion			
a. Wet land converted to:			
Agricultural land but non-irrigated			
Non-agricultural land			
b. other dry land converted into:			
Wet land			
Non-agricultural land			
c. Non-agricultural land converted into:			
Wet land			
Agricultural land but non-irrigated			

V. INFORMATION ON PADDY CULTURE ONE YEAR AGO

1. Did you plant any paddy one year ago ? Yes 1 No 2			
2. a. Did you have any paddy harvest one year ago ? Yes 1 No 2 (go directly to item 3)			
b. If "yes", how many harvests ? ..... times			
Description	First harvest	Second harvest	Third harvest
(1)	(2)	(3)	(4)
c. Month of harvest			
d. Area planted (m2)			
e. Area harvested (m2)			
f. Harvest location			
g. Result of Harvest (kg - paddy at harvest)			
(1) as harvest wage/salaries			
(2) sold at harvested area			
(3) brought home			
h. Value of harvest			
3. a. If "No", did you sell it before harvest ? Yes -1 No- 2			
b. If "yes", write down the area sold ..... m2			

VI. A. INFORMATION ABOUT PADDY CULTURE DURING LAST HARVEST

1. Harvest situation			
Better	1, Same	2 Worse	3 Fail 4
2. Type of harvest, area and production			
Description	Area (m2)	Production (kg-paddy at harvest)	Value (Rp)
(1)	(2)	(3)	(4)
a. Own harvest			
b. Sold during harvest			
c. Sold before harvest			
3. Value of by-product sold (Rp)			
4. Reason for selling during/before harvest:			
More profitable	1	Great need	3
Bad debt	2	Other (Specify .....)	4
5. Processing of land:			
Using big tractors	-1	Animal	3

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Hand tractors	-2	Human	4	
6. Cost of tools, animal rent and maintenance cost (Rp. 1000)				
a. Rent of agricultural tools				
b. Rent of animals				
c. Maintenance cost				
7. Planting type/style				
Single commodity	-1	“tumpang sari”	-2	mixed crops 3
8. Area of planting				
9. Distance during planting (cm x cm)				
10. Seedling				
Type of seed		Amount (kg)		Value (Rp)
(1)		(2)		(3)
a. Bought				
b. Own production				
c. Total				
11. a. Seed used .....				
b. Type of seed				
Blue Labeled	-1	Pink Labeled	-2	Not labeled 3
c. If “not labeled”, what generation				
First	1,	Second	2,	Third or more 3
12.If using “labeled seed”, generally is planted up to				
Always labeled	1	Second generation	3	
First generation	2	Third or more	4	
13. a. Fertilizer				
Type of Fertilizer		Amount (kg)		(Value (Rp)
(1)		(2)		(3)
1. Urea				
2. TSP/SP36				
3. Other				
14. a. Is the fertilizer used adequate?				
Yes -1 (go directly to item 18) No - 2				
b. If dosage of fertilizer inadequate, what is the main reason				
Price of fertilizer is expensive	-1	Difficult to get fertilizer	-3	
Not profitable	-2	Other	-4	
15. a. Do you have any plant diseases?				
Yes -1 No - 2 (Go directly to item 18)				
b. If item (a) is coded “1”, write down the type .....				
c. Area damage by pest (square meter)				
d. Any action for pest control ? Yes - 1(go directly to item 12.g) No - 2				
e. Type of pest control				
Chemical (pesticide)	1	Biological	4	
Mechanical	2	Other		
f. If item e was “Other”, the amount of expenditure Rp. ....				
g. Pest control technique was obtained from				
Guidance	1	Mass media	2	Other
h. Reason for no pest control?				
The pesticide is expensive	- 1	Difficult to find pesticide	-3	
Not profitable	-2	Other	4	
16. Land rent/production sharing (Rp 1000.-)				
a. Land rent				
b. Value of production sharing				
17. a. Did you sell your paddy ?				
Yes 1 No 2				
b. If “yes”, place of selling				
Harvest location	1,	Other	2	
18. Other expenditure (Rp)				
a. Irrigation fee				
b. Agricultural services				
c. Tax				
d. Credit interest				
e. Other				
19. Type of threshing				

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Using toes	-1	Beating	3			
Slamming	2	Threshing machine	4			
20. Main threshing place :						
Harvest location	1, At house	2, Other	3			
21. Threshing cost (Rp)						
a. Machine/tool rent						
b. Maintenance cost						
c. Fuel						
22. Number of paid employees by type of work						
Type of work	Male			Female		
	people	Man-days	Wages	People	Man-days	Wages
(1)	(2)	(3)	(4)	(5)	(6)	(7)
a. Land processing						
b. Planting						
c. Fertilizing						
d. Pest control						
e. Cleaning						
f. Harvesting						
g. Threshing						
h. Total						
23. Number of unpaid employees by type of work						
Type of work	Male			Female		
	people	Man-days		People	Man-days	
(1)	(2)	(3)		(4)	(5)	
a. Land processing						
b. Planting						
c. Fertilizing						
d. Pest control						
e. Cleaning						
f. Harvesting						
g. Threshing						
h. Total						
24. Number of persons involved in paddy culture						
Paid worker			Unpaid worker			
Male	Female		Male	Female		
(1)	(2)		(3)	(4)		
25. The main harvesting type is done by						
Farmer and his/her relatives	-1	“Arisan” of harvest labor	3			
Paid harvest labor	-2	“bawon’ of harvest labor	4			

VI.B. POST-HARVEST INFORMATION SELECTED PADDY DURING LAST SEASON					
1. a. Did you dry paddy? Yes 1 No 2 (go directly to item 4)					
b. Main place of drying					
On land without cover	1	Drying machine	4		
On land with cover	2	Other (Specify.....)	5		
On cemented floor	3				
2. Percentage of production (Paddy during harvest) which was dried?					
3. Drying cost (Rp)					
a. Renting tools/machines					
b. Maintenance cost of tools/machines					
c. Fuel					
d. Other					
4. Main mode of transportation					
Human	1	Vehicle of three tires or more	5		
Animal	2	Boat	6		
Non-motorized vehicle	3	Other	7		
Motorcycle	4				
5. Cost of transportation (Rp)					
a. Actually paid					

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b. Estimated						
6. Main packing						
Gunny sack	1	basket	3	None	5	
Plastic sack	2	Other	4			
7. Usage of paddy harvest (%)						
a. Own consumption						
b. Sold						
c. Other						
8. a. If item 7 b is available, selling to						
Non Village Cooperative units	1	Market	-3	Other	5	
Village Cooperative Unit	2	Trader	4			
b. Reason of selling using method in 8						
Price is higher	1	Easier	2	Other	3	
9. Main type of production is sold in the form of:						
Paddy during harvest	1	Dried paddy	2	Rice form	3	
10. Price per kg (Rp/kg)						
a. Paddy during harvest						
b. Dried paddy						
c. Rice						
11. Percentage of paddy (dried) which was milled from total production						
12. Cost of milling (Rp/kg)						
13. a. Is there any problem of marketing? Yes -1 No - 2						
b. If the answer is "yes", what is the main reason?						
Limit of transport mode	-1	Quality is low	-2	Excess production	-3	
Price is low	-4	Other	-5			

## VII. INCOME AND RECEIPT OF HOUSEHOLD ONE YEAR AGO

Source of Income	Non-labor (Rp)	Labor (Rp)	Total (Rp)
(1)	(2)	(3)	(4)
1. Paddy culture selected			
2. Other agriculture			
3. Trade			
4. Manufacturing industry			
5. Other sector			
6. Other receipt (pension, rent, contract etc)			
7. Other income (borrow money, transfer etc)			
8. Total income			
9. If item 1 to 7 "filled in", what is the main source of income			

## VIII. NOTES

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**APPENDIX G****ST03-LKOC**

REPUBLIC OF INDONESIA

**2003 AGRICULTURAL CENSUS****RECAPITULATION OF HOUSEHOLD  
ENGAGED IN SECONDARY CROPS***Confidential*

Length of copying ... minutes

I. LOCATION IDENTIFICATION	
1. Province	
2. District/Municipality	
3. Sub district	
4. Village	
5. Village classification	Urban – 1 Rural – 2
6. Sample Code Number	
7. Number of census block	

II. SUMMARY			
1. Number of Households SP2000-L1 (Filled by district/municipality office)		5. Number of households engaged in crops ..... (Block V column (6) the last page)	
2. Number of households listed (ST2003-LKOC Block IV column (4) the last number of the last pages)		6. Number of households engaged in crops ..... (Block V column (7) the last page)	
3. Number of households engaged in secondary crops (ST2003-LKOC Sum of Block V column (6) the last page)		7. Number of households engaged in crops ..... (Block V column (8) the last page)	
4. Number of households engaged in crops ..... (Block V column (5) the last page)		8. Number of households engaged in crops ..... (Block V column (9) the last page)	

III. OFFICIAL INFORMATION		
Description	Copier	Supervisor
1. Name of the official		
2. Identification number		
3. Date of copying/supervision		
4. Signature		



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**APPENDIX H****ST03-LK**

REPUBLIC OF INDONESIA

**2003 AGRICULTURAL CENSUS****SUMMARY OF AGRICULTURAL HOUSEHOLD LISTING***Confidential*

Length of copying ..... minutes

I. LOCATION IDENTIFICATION	
1. Province	
2. District/Municipality	
3. Sub district	
4. Village	
5. Number of census block	

II. SUMMARY	
1. Number of Households using land (Block VI column (24) item c the last set)	
2. Number of households engaged in agriculture (Block VI column (25) item c the last set)	
3. Number of household "small farmer" (Block VI column (26) item c on the last set).	

III. OFFICIAL INFORMATION		
Description	Enumerator	Supervisor
1. Name of the official		
2. Identification number		
3. Signature		

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IV. IDENTITY				V. INFORMATION ABOUT HOUSEHOLD ACTIVITIES (Based on ST2003-L2)								
Sequential number of				Is there any member of household engage in								
Segment	Physical building	Census building	Household	Fish or other biotic culture			Paddy culture Yes =1 (Block III item 1d filled No = -	Secondary crop culture Yes =1 (Block III item 2j filled No = -	Paddy or secondary crop (if column 8 and or 9 coded 1)	Horti-culture Yes =1 (Block IV item C coded 1) No = -	Estate crop culture Yes =1 (Block V item c coded 1) No = -	Forestry crop culture Yes =1 (Block VI item item c coded 1) No = -
				In wet land or fresh water Yes =1 (Block II item 7 a,b column (3) filled No = -	In brack-ish water pond Yes =1 (Block II item 7 c column (3) filled No = -	Looking after wild animal Yes =1 (Block II item 8 column (3) filled No = -						
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
Total of this set												
Cumulative up to the previous set												
Cumulative up to this set												

INFORMATION ON HOUSEHOLD AND ITS ACTIVITIES (Based on ST2003-L2)	VI. AGRICULTURAL HOUSEHOLD CATEGORY
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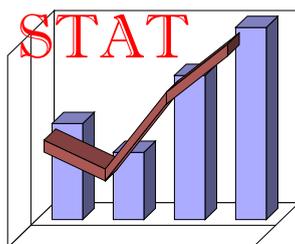


# **IS SUSENAS RICE CONSUMPTION IN URBAN AREAS OF INDONESIA UNDERSTATED?**

Report # 64  
Statistical Paper # 15

by  
**Yahya Jammal  
Arizal Ahnaf**

November, 2002



**Statistical Assistance to the Government of Indonesia (STAT) Project**  
USAID Contract No. PCE-I-00-99-00009-00

We would like to acknowledge the valuable contribution of Mr. Fathur Rahman, who painstakingly consolidated, converted and cleaned the data sets used in this paper and spent a substantial amount of time assisting us in documenting our methodology and in developing programs to implement it. We would like to thank Dr. Vijay Verma for his help in developing the methodology used in this paper and Mr. Uzair Suhaimi for his comments on an earlier draft.

November 13, 2002

Is Susenas Rice Consumption in Urban Areas Understated?

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November 13, 2002

Is Susenas Rice Consumption in Urban Areas Understated?

## I. INTRODUCTION

Rice consumption in Susenas, the regular national socio-economic survey conducted by BPS, is understated. This appears to represent conventional wisdom in Indonesia at the present time. Discussions with knowledgeable people within as well as outside BPS seem to confirm the prevalence of this belief. People have tended to take that conclusion for granted and have concentrated their efforts on trying to explain the reasons for the understatement.

In an earlier paper,<sup>1</sup> Sastrotaruno and Maksum attempted to compare annual levels of aggregate rice consumption and production in Indonesia over the past three decades and argued that the substantial difference between the two was more due to an overstatement of production than an understatement of consumption (which relies primarily on Susenas). The present paper attempts to test the claim of understatement in Susenas by comparing its results with those of another more reliable source. More specifically, the paper attempts to test the following hypothesis:

Is the Susenas per capita rice consumption level in urban areas of Indonesia underestimated?

To do that, results from the 1996 Susenas consumption expenditure survey were compared with those obtained from the larger and more complete 1996 Cost of Living Survey (*Survei Biaya Hidup*, SBH). Given that the SBH coverage was limited to 44 cities, the hypothesis had to be limited to relevant urban areas. Following a discussion of coverage, design and contents of the two surveys (in Section II), and the methodology we applied for comparing results from these surveys (Section III), results are provided in Section IV. The very brief answer to the question that we are addressing is this: Susenas rice consumption in urban areas in 1996 is NOT understated.

## II. DATA SOURCES

### A. Susenas

#### 1. Purpose & Coverage

Susenas is a multi-purpose survey which has been conducted regularly since the 1960s and has constituted the primary source for data on socio-economic characteristics of the population in Indonesia. Its frequency, coverage and questionnaires have undertaken several changes over time. Since the 1990s it has been divided into two major undertakings: an annual

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<sup>1</sup> Sastrotaruno, Suwandhi and Choiril Maksum, *Aggregate Rice Data in Indonesia: A Brief Overview*, STAT Project Report #48, February, 2002.

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*core* survey designed to track developments in major household characteristics and a tri-annual *module* designed to measure in more detail specific household characteristics. Three *module* surveys have been conducted in the past decade:

- one on household income and expenditure,
- one on culture, criminality, tourism and welfare and
- one on health, education and housing

While the sample for the *core* survey has covered about 200,000 households in order to enable adequate representation at the kabupaten level, that of the *modules* has included only about 65,000 since only representation at the provincial level was sought. In order to spread workload more evenly, each module has been conducted once every three years. Thus, in any one year two surveys have been conducted at the same time: the *core* survey and one of the *modules*.

The relevant survey for this report is the 1996 *module* on household income and expenditure. It covered 65,664 households in all 27 provinces of Indonesia at the time (with 27,008 identified in urban areas and 38,656 in rural areas). In the sections that follow, this will be the survey in question whenever any reference to the “1996 Susenas” is made.

## **2.      Questionnaire**

The 1996 Susenas survey, which was conducted during the month of February 1996, required an interview between a BPS enumerator (the *mantri statistik*) and the head of the household.<sup>2</sup> During the interview, the enumerator would ask questions as stated in the questionnaire and would record the answers. With regard to food consumption, the household was asked to provide answers to a question which translates roughly into: “how much did your household consume during the past week?” The household was then provided with a list of over 200 commodities and was required to provide the following data by individual commodity:

- Purchases: quantity (units varied) and value (in rupiah)
- Own production: quantity (units varied) and value (in rupiah)
- Total (of the above two): quantity and value.

Appendix D provides an abbreviated version of the questionnaire containing questions on household characteristics and those on rice consumption. The list of rice commodities is provided in Table 1 below. No other question contained relevant information on rice consumption *per se*,

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<sup>2</sup> If the head of household was not present at the time of the interview, then any adult household member (excluding servants) who is knowledgeable about household consumption could answer.

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which could be used in the comparison with data from the SBH.<sup>3</sup>

In sum, data from the 1996 Susenas survey covered rice consumption in one week of February 1996 and was based on the response of the interviewee, which in turn relied on the interviewee's memory, not on a daily diary.

## **B. Cost of Living Survey**

### **1. Purpose**

The Cost of Living Survey (*Survei Biaya Hidup*, SBH) is a survey of household expenditure conducted for the sole purpose of providing the basket of commodities as well as commodity weights used in computing the Consumer Price Index (CPI) for particular cities in Indonesia. Since the 1970s, it was conducted only three times: once in 1977/78 in 17 provincial capital cities, once in 1989 in 27 provincial capital cities and finally in 1996 in 44 cities (27 provincial capitals and 17 district capitals/municipalities).

### **2. Coverage**

Unlike Susenas, which aims at providing comprehensive national coverage, the SBH is designed to provide adequate coverage of household expenditure for each city separately. In other words, the SBH was not designed for representation of the national expenditure pattern, but rather for representation of the expenditure pattern of individual cities. The 1996 survey, which is the subject of investigation of this report, covered 60,360 households in 44 cities, with samples ranging from 336 households in Dili (East Timor) to 4,800 in DKI Jakarta.

Unlike the 1996 Susenas, which covered households of all sizes and characteristics, the SBH was supposed to cover only "literate" households with 2-10 members.<sup>4</sup> Household literacy, which was defined as having at least one household member aged 15 years or older able to read and write, was necessary since the household was expected to fill particular forms. Household size was limited to 2-10 members for practical operational reasons. In reality, however,

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<sup>3</sup> Only two further questions contained some reference to rice:

- the first was what appears to be a summary measure of the "average monthly household expenditure (in rupiah)" but which also stated "during one week." Despite the uncertain meaning of this variable, it is not relevant to our investigation since it is limited to the category "padi-padian" which includes several non-rice commodities and excludes prepared rice.
- the other enquired about the "frequency of rice consumption" by individual household member. This was a supplementary question designed, according to those familiar with various stages of this survey's design, to provide data on food consumption habits of household members. It was not designed to be incorporated into the computation of the level of household consumption.

<sup>4</sup> These were the conditions stipulated in the operational manual (*Pedoman Pencacah, Pengawas/Pemeriksa Rumah Tangga Sampel*, Buku 5, *Survei Biaya Hidup* 1996, p. 3).

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households of all sizes were included in the survey<sup>5</sup> and the literacy requirement was not very relevant as most urban households in Indonesia contain at least one literate member.<sup>6</sup> Therefore, one can reasonably assume that both surveys essentially covered the same types of households.

### **3. Data Collection**

The SBH was carried out in two rounds to lessen the effect of seasonality in consumption: one in June 1996 for one-half of the households in the sample and one in December 1996 for the other half. During each round, the enumerator would visit the household four times: the first visit would be to explain the purpose and mechanics of the survey and leave relevant documents with the household; and the other three visits would be to ensure reliability of reported data.

### **4. Questionnaire**

The SBH questionnaire is far more elaborate than that of Susenas. It covers more than 600 food items (vs 200 for Susenas), in addition to the other 800 items covering non-food expenditure. Appendix E provides an abbreviated version of the questionnaire covering questions on household characteristics and those on rice consumption. In terms of rice commodities, the SBH questionnaire allows for ten individual types of raw rice (vs six for Susenas) and sixteen types of prepared rice (vs four for Susenas). Table 1 compares the lists of these commodities between the two surveys.

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<sup>5</sup> Of 59,386 households in the 1996 SBH data set, 249 (0.4%) had only one member and 254 (0.4%) had over ten members.

<sup>6</sup> The 1996 Susenas *core* survey suggests that 93% of the urban population aged 15 years or older were literate.



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- b. quality/brand,
- c. quantity in standard units,
- d. value of consumption in rupiah and
- e. how the commodity was acquired.

The household was required to provide this information separately for three categories of consumed items: purchases, own produced and “other”. It is not clear what the “other” category may include. Results would then be transcribed by the enumerator onto a weekly summary sheet, summed up then the weekly sums would be entered manually into the main questionnaire (shown in Appendix E). Appendices F and G provide samples of the daily diary and the weekly summary sheet respectively.

Although quantity and value data were entered in the questionnaire for each one of the three above categories, only totals for all three categories combined were entered in the computerized data set.

- non-routine expenditure (i.e. non-food) were required to be reported in monthly increments (over the past six months) in a document provided to the household. Like food items, results in this case were transcribed by the enumerator to a summary sheet, summed up over the six-month period then the monthly sums were entered manually into the main questionnaire. Sample forms for these items are not provided in this report because they are not relevant to our analysis.

### III. METHODOLOGY & DATA CHECKS

The previous section suggests that, other things being the same, given its more extensive coverage, more elaborate questionnaire and more rigorous reporting requirements, the 1996 SBH is expected to provide a more accurate measurement of household consumption than the 1996 Susenas for the same households. Thus by comparing per capita rice consumption obtained from the 1996 Susenas with that obtained from the SBH, we can determine whether to accept or reject the hypothesis that the Susenas measure understates the true level of rice consumption represented by the SBH.

#### A. Methodology

Since both surveys are samples, they are both subject to several types of potential errors:

- a. at the household Level:
  1. conceptual errors: e.g. introduction of wrong definitions, or of wrong ways that concepts are put into practice (questionnaire design, interviewer training)
  2. reporting error
  3. processing errors: editing, coding, data entry, programming etc.

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4. non-response
  - b. at more aggregated geographic levels (wilcah, kabupaten, province, national): in addition to the above errors, two further estimation errors can be introduced,
    1. coverage error: e.g. omissions, wrong boundaries, outdated lists etc.
    2. sampling error

Our attempt in this report focused on the impact of the measurement process. That is, to find out whether the expected potential bias in the Susenas results was subject to a larger bias than that of the SBH. In other words, we focused on the effect of all non-sampling measurement errors combined, rather than measure the extent of each error separately.

Since we did not need to measure sampling error, we wanted to minimize its effect. The easiest way to do so was by maximizing the size of the samples compared. That is why our attempt compared results for the whole nation rather than for any particular geographic area.

To do that, the following steps were followed:

- 1) Select comparable jurisdictions: since the SBH covered 44 cities (i.e. urban concentrations), only urban areas containing these cities were selected from the 1996 Susenas. Table 2 compares geographic coverage and households between the two surveys.

**Table 2**  
**Geographic Coverage in Comparative Analysis**

	<b>Susenas</b>	<b>SBH</b>
Areas	44 urban areas <sup>1)</sup>	44 cities <sup>2)</sup>
Number of households	11,499	59,386
Number of household members	52,760	288,607

1) Urban areas covered included those corresponding to the 44 cities in the SBH.

2) Aceh Utara, Banda Aceh, Tapanuli Selatan, Sibolga, Pematang Siantar, Medan, Padang, Pekan Baru, Batam, Jambi, Palembang, Bengkulu, Bandar Lampung, DKI Jakarta, Tasikmalaya, Serang, Bandung, Cirebon, Purwokerto, Surakarta, Semarang, Tegal, Yogyakarta, Jember, Kediri, Malang, Surabaya, Denpasar, Mataram, Kupang, Dili, Pontianak, Kotawaringin Timur, Palangka Raya, Banjarmasin, Balikpapan, Samarinda, Manado, Palu, Ujung Pandang, Kendari, Maluku Utara, Ambon, Jayapura.

- 2) Make the two samples as similar as possible in terms of two critical characteristics: geographic distribution and household size distribution. To do

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that, the SBH was used as a benchmark given its more extensive coverage. An *iterative proportional fitting* (or *raking*) procedure was then applied to make the distribution of the Susenas sample agree with that of the SBH in terms of the two chosen characteristics.<sup>7</sup> The steps involved were the following:

- Let

- i be a subscript referring to a particular area (city)
- j a subscript denoting households in the SBH
- k a subscript denoting households in the Susenas sample
- $W_{i,j}^H$  the sample weight of household j in area i covered in the SBH
- $R_{i,j}^H$  the reported amount of rice consumption by household j in area i in the SBH
- $R_i^H$  the weighted rice consumption in area i covered in the SBH

$$R_i^H = \sum_j W_{i,j}^H \cdot R_{i,j}^H$$

- $P_i^H$  the proportion of weighted rice consumption in area i relative to weighted rice consumption in all urban areas covered in the SBH

$$P_i^H = R_i^H / \sum_i R_i^H$$

- $W_{i,k}^S$  the sample weight of household k in area i covered in Susenas
- $R_{i,k}^S$  the reported amount of rice consumption by household k in area i in Susenas
- $R_i^S$  the weighted rice consumption in area i covered in Susenas

$$R_i^S = \sum_k W_{i,k}^S \cdot R_{i,k}^S$$

- $P_i^S$  the proportion of weighted rice consumption in area i relative to weighted rice consumption in all urban areas covered in the Susenas sample:<sup>8</sup>

$$P_i^S = R_i^S / \sum_i R_i^S$$

- Susenas sample weights were redefined as:

$$W_{i,k}'^S = W_{i,k}^S \cdot \left( \frac{P_i^H}{P_i^S} \right)$$

This made the weighted distributions  $P_i^S$  by area the same as  $P_i^H$ .

- Once the samples were adjusted geographically as above, a similar procedure was applied to adjust their marginal distribution by household size (h).

Let

- $W_{h,j}^H$  be the sample weight of household j of size h in the SBH
- $R_{h,j}^H$  the reported amount of rice consumption by household j of size h in the SBH
- $R_h^H$  the weighted rice consumption of households of size h covered in the SBH

<sup>7</sup> This procedure and its step-by-step formulations were kindly provided by Dr. Vijay Verma. The general concept is described in more detail in Verma's *Notes on Estimation Procedures*, STAT Project Report #62, October, 2002.

<sup>8</sup> This was restricted to the 44 urban areas covered in our comparative analysis.

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$$R_h^H = \sum_j W_{h,j}^H \cdot R_{h,j}^H$$

$P_h^H$  the proportion of weighted rice consumption of households of size h relative to weighted rice consumption in all urban areas covered in the SBH

$$P_h^H = R_h^H / \sum_h R_h^H$$

$W_{h,k}^S$  the sample weight of household k of size h covered in Susenas, taking into account the adjustment made by area above

$R_{h,k}^S$  the reported amount of rice consumption by household k of size h in Susenas

$R_h^S$  the weighted rice consumption of households of size h covered in Susenas

$$R_h^S = \sum_k W_{h,k}^S \cdot R_{h,k}^S$$

$P_h^S$  the proportion of weighted rice consumption of households of size h relative to weighted rice consumption in all urban areas covered in the Susenas sample

$$P_h^S = R_h^S / \sum_h R_h^S$$

- Susenas sample weights were redefined as:

$$W_{h,k}^{\prime S} = W_{h,k}^S \cdot \left( \frac{P_h^H}{P_h^S} \right)$$

This made the weighted distributions  $P_h^{\prime S}$  by household type (which have already been adjusted by area) the same as  $P_h^H$ .

- In principle, the above two adjustments in the procedure could be repeated iteratively. However, in the present case, no repetitions were required since the weights converged quickly after a single application.

3) Compare average per capita rice consumption between the two samples.

## B. Data Checks

To ensure that the final figures used in this analysis were correct, they were subjected to a number of consistency and plausibility checks.

### 1. Susenas

For the Susenas figures, the following checks were performed:

- Per capita as well as aggregate numbers in the data set were compared with relevant published figures, for both quantities and values.
- Per capita quantity and value figures for included urban areas were

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compared with those of all urban areas and with those of all areas (urban and rural) for plausibility.

- Per capita unit values for different types of commodities and commodity groups were compared with relevant price measures from other surveys for plausibility.
- Weighted and unweighted figures were compared to determine the plausibility of the effect of using design weights.
- Results of using reweighted vs unweighted figures were compared to check the plausibility of the effect of reweighting for comparing Susenas with SBH

## **2.     SBH**

For the SBH, the following checks were performed:

- Per capita numbers by city in the data set (for the 14 cities in Java) were compared with relevant published figures, for both quantities and values.<sup>9</sup>
- Per capita unit values for different types of commodities and commodity groups by city were compared with relevant price measures from other surveys for plausibility.
- Weighted and unweighted figures by city were compared to determine the plausibility of the effect of using design weights

## **IV.   RESULTS & CONCLUSIONS**

Based on the above methodology, an average per capita rice consumption per week for 1996 was computed using both Susenas and the SBH. Table 3 compares its main components.

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<sup>9</sup> Exact published figures could not be replicated for either quantities or values. However, the levels obtained from our data set were close enough to indicate that we were using the same data as in the publication.

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**Table 3**  
**Average per Capita Rice Consumption Per Week in 1996: Susenas vs SBH**

	Susenas	SBH	Susenas/SBH
<b>Raw Rice Purchased</b>			
Quantity (kg)	2.098	1.673	1.254
Value (Rp)	1995	1731	1.153
<b>Prepared Rice Purchased</b>			
Quantity (portion) <sup>1)</sup>	0.534	1.068	0.500
Value (Rp)	426	804	0.530
<b>Own Produced Rice (raw +</b>			
Quantity <sup>2)</sup>	0.135	na	
Value (Rp)	126	na	
<b>Total Rice Consumed</b>			
Value (Rp)	2548	2535	1.005

- 1) this measure is not meaningful as “portion” may not be uniform  
 2) this measure is not meaningful as “raw” is measured in kg but “prepared” is measured in “portion”. It is provided here simply to illustrate that its magnitude is relatively small, even when all units are added up.

The table points to a number of important observations:

- First, it shows that the largest proportion (over two-thirds) of the total value of rice consumption of an individual consumer is in the form of raw rice purchased, whether one uses Susenas or the SBH. The proportion of rice produced and consumed within the household, which is only available in Susenas, is minuscule (less than 1% of the total value of rice consumed).
- If one compares per capita consumption of purchased raw rice between the two surveys, the figure from Susenas is significantly higher than that from the SBH (25% higher in terms of quantity and 15% higher in terms of value).
- If one compares total per capita rice consumption (i.e. from all sources), then the values from the two surveys are virtually identical. The difference in values of the raw rice consumption is compensated by the opposite difference for prepared rice consumption. This may be due to possible social differences in respondents (a point noted later) or to possible differences in interpretation of the questions between the two surveys. Such comparison, however, can only be made in terms of rupiah value. Total per capita quantity consumed cannot be computed since prepared rice is measured in non-uniform units (“portion”).

If we had to stop here it would be unfortunate because our finding with regard to whether Susenas understates rice consumption would not be conclusive. Although discussions with knowledgeable

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people in this area suggest that purchased raw rice is by far the most important source of rice consumption, implying that a strong conclusion regarding this component would most probably apply to the total as well, we felt that it would be more desirable if we could quantify such proportions in order to arrive at a single comparative measure. Luckily, an earlier BPS survey conducted in 1990-1991 attempted to do that: to measure the reliability of per capita consumption of food items in the 1990 Susenas, it surveyed over 2000 households all over Indonesia (in both urban and rural areas) and required them to measure both raw and prepared foods in kilograms. Appendix C discusses briefly the findings of that survey as they relate to rice consumption in urban areas. Results of that survey were useful in two respects:

- By measuring all units of rice consumption in kilograms, it confirmed that over 90% of the quantity of rice consumed in urban areas is indeed in the form of raw rice (Table C.2).
- It provided us with a useful set of proportions of quantities of prepared rice to raw rice consumed for different categories of rice (“domestic + special + imported,” “glutinous,” “rice meal” and “rice noodles”, see Table C.2).

By applying the average shares (in urban areas) obtained from that survey to the quantities of individual raw rice commodities reported in the 1996 Susenas and the 1996 SBH (categories “prepared rice purchased” and “prepared own produced rice” in Table 3), we were able to compute quantity (in addition to the already reported value) measures for the three broad groups of commodities in Table 3. Table 4 shows results of these computations.

**Table 4**  
**Average per Capita Rice Consumption Per Week in 1996: Susenas vs SBH**  
**(Using same proportions of prepared to raw as in 1990-91 special survey)**

	Susenas	SBH	Susenas/SBH
<b>Raw Rice Purchased</b>			
Quantity (kg)	2.098	1.673	1.254
Value (Rp)	1995	1731	1.153
<b>Prepared Rice Purchased</b>			
Quantity (kg)	0.136	0.115	1.177
Value (Rp)	426	804	0.530
<b>Own Produced Rice (raw +</b>			
Quantity (kg)	0.036	na	
Value (Rp)	126	na	
<b>Total Rice Consumed</b>			
Quantity (kg)	2.270	1.788	1.269
Value (Rp)	2548	2535	1.005

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In addition to the above conclusions based on Table 3, Table 4 suggests one more: in terms of the quantity of total rice consumed, the average per capita level based on Susenas is significantly higher than that in the SBH (27%). That was despite the fact that the value of per capita consumption of prepared rice in Susenas was only 53% of that obtained from the SBH.<sup>10</sup>

Thus, overall, our finding was that **average rice consumption derived from the 1996 Susenas is NOT lower than that derived from the 1996 SBH**. How robust is that conclusion? In other words, is it possible that the final figures reported in Tables 3 and 4 were substantially altered by our weighting procedure discussed in Section III.A? The answer to the latter question is: no. Appendix A provides figures comparable to those in Tables 3 and 4 but using (less statistically reliable) unweighted numbers. The conclusions from the relevant tables (A.1 and A.2) remain the same as those derived from Tables 3 and 4: per capita consumption of raw rice derived from Susenas is significantly higher than that in the SBH for both value and quantity; and when all items are converted into kilograms, per capita quantity of rice consumed in Susenas is significantly higher than that in the SBH while the per capita value of consumption between the two surveys is close (probably within the range of sampling error).

Tables B.1 and B.2 in Appendix B further provide data for DKI, the only fully comparable domain of estimation between the two surveys. Again, the conclusion that the quantity of rice consumed in Susenas is higher than that in the SBH remains valid, although in this case the value of rice consumption in Susenas is significantly lower than that in the SBH. These two findings can certainly be reconciled by the fact that Susenas respondents in DKI tend to be among lower income households than those covered in the SBH.<sup>11</sup>

Overall then, **the answer to the hypothesis that we are testing in this paper (“is the per capita rice consumption level derived from Susenas in urban areas of Indonesia understated?”) is a conclusive and solid NO.**

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<sup>10</sup> The two observations (that quantity of prepared rice in Susenas was higher than that in the SBH while value was lower) can be reconciled if one believes that Susenas respondents generally covered cheaper varieties of such food than those in the SBH.

<sup>11</sup> The average monthly household consumption expenditure in DKI in the 1996 Susenas was Rp. 736,400 while that in the 1996 SBH was Rp. 1,131,569.

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**APPENDIX A****TABULATIONS USING UNWEIGHTED DATA**

This appendix provides results comparable to those in Tables 3 and 4 above, but using unweighted data.

**Table A.1**  
**Average per Capita Rice Consumption Per Week in 1996: Susenas vs SBH**  
**(Using unweighted data)**

	<b>Susenas</b>	<b>SBH</b>	<b>Susenas/SBH</b>
<b>Raw Rice Purchased</b>			
Quantity (kg)	1.864	1.619	1.151
Value (Rp)	1887	1708	1.105
<b>Prepared Rice Purchased</b>			
Quantity (portion) <sup>1)</sup>	0.608	1.140	0.533
Value (Rp)	568	947	0.599
<b>Own Produced Rice (raw +</b>			
Quantity <sup>2)</sup>	0.122	na	
Value (Rp)	111	na	
<b>Total Rice Consumed</b>			
Value (Rp)	2566	2656	0.966

- 1) this measure is not meaningful as "portion" may not be uniform
- 2) this measure is not meaningful as "raw" is measured in kg but "prepared" is measured in "portion". It is provided here simply to illustrate that its magnitude is relatively small, even when all units are added up.

**Table A.2**  
**Average per Capita Rice Consumption Per Week in 1996: Susenas vs SBH**  
**(Using same proportions of prepared to raw as in 1990-91 special survey)**

	<b>Susenas</b>	<b>SBH</b>	<b>Susenas/SBH</b>
<b>Raw Rice Purchased</b>			
Quantity (kg)	1.864	1.619	1.151
Value (Rp)	1887	1708	1.105
<b>Prepared Rice Purchased</b>			
Quantity (kg)	0.124	0.112	1.109
Value (Rp)	568	947	0.599
<b>Own Produced Rice (raw +</b>			
Quantity (kg)	0.038	na	
Value (Rp)	111	na	
<b>Total Rice Consumed</b>			
Quantity (kg)	2.027	1.731	1.171
Value (Rp)	2566	2656	0.966

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## APPENDIX B

### TABULATIONS FOR DKI JAKARTA

This appendix provides results comparable to those in Tables 3 and 4 above, using both properly weighted and unweighted data but limited to DKI Jakarta.

**Table B.1**  
**Average per Capita Rice Consumption Per Week in 1996 in DKI (unweighted): Susenas vs SBH**

	Susenas	SBH	Susenas/SBH
<b>Raw Rice Purchased</b>			
Quantity (kg)	1.742	1.463	1.191
Value (Rp)	1812	1698	1.067
<b>Prepared Rice Purchased</b>			
Quantity (portion) <sup>1)</sup>	0.119	2.067	0.058
Value (Rp)	983	2137	0.460
<b>Own Produced Rice (raw +</b>			
Quantity <sup>2)</sup>	0.124		
Value (Rp)	99		
<b>Total Rice Consumed</b>			
Value (Rp)	2894	3835	0.754

- 1) this measure is not meaningful as "portion" may not be uniform
- 2) this measure is not meaningful as "raw" is measured in kg but "prepared" is measured in "portion". It is provided here simply to illustrate that its magnitude is relatively small, even when all units are added up.

**Table B.2**  
**Average per Capita Rice Consumption Per Week in 1996 in DKI (unweighted): Susenas vs SBH**  
**(using same proportions of prepared to raw as in 1990-91 special survey)**

	Susenas	SBH	Susenas/SBH
<b>Raw Rice Purchased</b>			
Quantity (kg)	1.742	1.463	1.191
Value (Rp)	1812	1698	1.067
<b>Prepared Rice Purchased</b>			
Quantity (kg)	0.000	0.102	0.004
Value (Rp)	983	2137	0.460
<b>Own Produced Rice (raw +</b>			
Quantity (kg)	0.005	na	
Value (Rp)	99	na	
<b>Total Rice Consumed</b>			
Quantity (kg)	1.748	1.564	1.117
Value (Rp)	2894	3835	0.754

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**Table B.3**  
**Average per Capita Rice Consumption Per Week in 1996 in DKI (weighted): Susenas vs SBH**

	Susenas	SBH	Susenas/SBH
<b>Raw Rice Purchased</b>			
Quantity (kg)	1.728	1.463	1.181
Value (Rp)	1771	1698	1.043
<b>Prepared Rice Purchased</b>			
Quantity (portion) <sup>1)</sup>	0.911	2.067	0.441
Value (Rp)	1013	2137	0.474
<b>Own Produced Rice (raw +</b>			
Quantity <sup>2)</sup>	0.130		
Value (Rp)	110		
<b>Total Rice Consumed</b>			
Value (Rp)	2894	3835	0.755

- 1) this measure is not meaningful as "portion" may not be uniform
- 2) this measure is not meaningful as "raw" is measured in kg but "prepared" is measured in "portion". It is provided here simply to illustrate that its magnitude is relatively small, even when all units are added up.

**Table B.4**  
**Average per Capita Rice Consumption Per Week in 1996 in DKI (weighted): Susenas vs SBH**  
**(using same proportions of prepared to raw as in 1990-91 special survey)**

	Susenas	SBH	Susenas/SBH
<b>Raw Rice Purchased</b>			
Quantity (kg)	1.728	1.463	1.181
Value (Rp)	1771	1698	1.043
<b>Prepared Rice Purchased</b>			
Quantity (kg)	0.118	0.102	1.165
Value (Rp)	1013	2137	0.474
<b>Own Produced Rice (raw +</b>			
Quantity (kg)	0.004	na	
Value (Rp)	110	na	
<b>Total Rice Consumed</b>			
Quantity (kg)	1.851	1.564	1.183
Value (Rp)	2894	3835	0.755

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## APPENDIX C

### RESULTS OF A 1990-91 SPECIAL SURVEY

This survey<sup>12</sup> was conducted in 1990-1991 in five quarterly rounds between Quarter 1 1990 and Quarter 1 1991 to measure the average per capita consumption of various food items, including different categories of rice. It covered a sample of 2120 households in urban and rural areas of 27 provinces. The notable procedure used in this survey was the direct measurement in kilograms of various portions of raw and prepared foods and the use of a diary by households for more reliable recording of item consumption. Thus the study allows comparison of quantities of raw food and prepared foods, unlike Susenas and SBH, both of which use the non-uniform “portion” as the unit of measurement of prepared foods (including rice).

For the purpose of the present paper, two important results were derived: the first comparing average quantity of rice consumed with that reported in the 1990 Susenas (Table C.1), and the other providing a useful breakdown of the quantity of rice consumed (including prepared rice), as in Table C.2.

**Table C.1**  
**Average per Capita Weekly Rice Consumption (in kg): 1990-91 Special Survey vs 1990 Susenas**

	Susenas 1990 <sup>1)</sup>			Special Survey <sup>2)</sup>			Special Survey Statistics		
	Raw	Prepared	Total	Raw	Prepared	Total	cv	Lower limit (raw)	Upper limit (raw)
Domestic+special+ imported	2.136	na	2.136	2.055	0.149	2.204	2.1%	2.013	2.097
Glutinous	0	na	0	0.010	0.014	0.024	30.1%	0.01	0.013
Rice meal	0	na	0	0.01	0.015	0.024	21.0%	0.01	0.011
Rice noodles		na	0			0			
Total	2.148	na	2.148	2.074	0.178	2.252			

- 1) conducted in February 1990. Results refer to urban areas in 27 provinces. Relative standard errors for variables in the table were not readily available.
- 2) Round 1, conducted January-March 1990. Results refer to urban areas in 27 provinces.

<sup>12</sup> The writeup and figures in this appendix were extracted from two documents: *Studi Reliabilitas/SKM (Lanjutan) Laporan Akhir*, BPS, June 1992 and *Reliability Study/SKM (Continued) Executive Summary*, BPS, June 1992.

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Is Susenas Rice Consumption in Urban Areas Understated?

**Table C.2**  
**Average per Capita Weekly Rice Consumption (in kg) Over 5 Rounds of the 1990-91 Special Survey**

	Kilogram			Horizontal Shares			Vertical Shares		
	Raw	Prepared	Total	Raw	Prepared	Total	Raw	Prepared	Total
Domestic+ special+ imported	1.952	0.132	2.084	93.7%	6.3%	100%	99.0%	80.3%	97.5%
Glutinous	0.009	0.013	0.022	41.9%	58.1%	100%	0.5%	7.7%	1.0%
Rice meal	0.008	0.017	0.025	31.4%	68.6%	100%	0.4%	10.3%	1.1%
Rice noodles	0.004	0.003	0.006	55.6%	44.4%	100%	0.2%	1.7%	0.3%
Total	1.973	0.164	2.136	92.3%	7.7%	100%	100%	100%	100%

Note: the survey was conducted in five quarterly rounds between January 1990 and March 1991 covering 27 provinces. Results in the table refer only to urban areas surveyed.

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Is Susenas Rice Consumption in Urban Areas Understated?

## **APPENDIX D**

### **SAMPLE QUESTIONNAIRE: 1996 SUSENAS**

This appendix provides only relevant parts of the Susenas questionnaire: the household characteristics section and that covering rice consumption.

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November 13, 2002

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**APPENDIX E**  
**SAMPLE QUESTIONNAIRE: 1996 SBH**

This appendix provides only relevant parts of the 1996 SBH questionnaire: the household characteristics section and that covering rice consumption.

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Is Susenas Rice Consumption in Urban Areas Understated?



**SBH 96**  
SURVEI BIAYA HIDUP

REPUBLIK INDONESIA  
BIRO PUSAT STATISTIK

RAHASIA

SBH96-9

**SURVEI BIAYA HIDUP 1996**

KETERANGAN RUMAHTANGGA, KONDISI BANGUNAN, FASILITAS TEMPAT TINGGAL,  
PENGELUARAN DAN PENDAPATAN/PENERIMAAN RUMAHTANGGA

I. PENGENALAN TEMPAT, KETERANGAN RUMAHTANGGA DAN PETUGAS			
I.1. PENGENALAN TEMPAT			
1. Propinsi		2	<input type="text"/>
2. Kabupaten/Kotamadya *)		4	<input type="text"/>
3. Kota/Kota Administratif *)			
4. Kecamatan			
5. Kelurahan/Desa			
6. Nomor Wilayah Pencacahan			
7. Nomor Kelompok Segmen			
8. Nomor Kode Sampel		6	<input type="text"/>
9. Nomor Urut Sampel		12	<input type="text"/>
10. Nomor Golongan Rata-rata Pengeluaran Sebulan		14	<input type="text"/>
11. Nomor Urut Rumah tangga Terpilih			
I.2. KETERANGAN RUMAHTANGGA			
1. Nama Kepala Rumah tangga		15	<input type="text"/>
2. Jumlah Anggota Rumah tangga		19	<input type="text"/>
3. Jumlah Anggota Rumah tangga Ekonomi		21	<input type="text"/>
4. Jumlah Anggota Rumah tangga Lainnya		23	<input type="text"/>
5. Jumlah Anggota Rumah tangga Ekonomi Yang Bekerja		24	<input type="text"/>
6a. Tempat biasa berbelanja makanan, minuman, rokok & tembakau		26	<input type="text"/>
6b. Tempat biasa berbelanja bukan makanan, minuman, rokok & tembakau		27	<input type="text"/>
I.3. KETERANGAN PETUGAS			
URAIAN	PENCACAH	PENGAWAS	EDITOR
1. Nama			
2. Tanggal/Tanda Tangan			
3. NIP/NMS *)			

\*) Curret yang tidak sesuai

November 13, 2002

Is Susenas Rice Consumption in Urban Areas Understated?







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Is Susenas Rice Consumption in Urban Areas Understated?

KODE		Jenis barang	Kualitas/ Merek	Satuan Standar	Frekuensi		Jumlah Konsumsi		Nilai (Rp)	
(0)	(1)	(2)	(3)	(4)	Banyaknya (0,00)	Nilai (Rp)	Banyaknya (0) + (7) + (8)	Kolom (5) + (7) + (8)	Kolom (6) + (9) + (10)	(11)
<p>25 0 6 0 2</p> <p><b>VI.2. MAKANAN</b></p>										
<p><b>Makanan olahan</b></p>										
01	1	Arisan		Porsi						
02	2	Masakan buah		Porsi						
03	3	Beber ayam		Porsi						
04	4	Beber kacang hijau		Porsi						
05	5	Beber Manado		Porsi						
06	6	Ketupat sayur		Porsi						
07	7	Ketupat empal		Porsi						
08	8	Mie rebus		Porsi						
09	9	Mie / Ditan bakso / Pangsit		Porsi						
10	0	Nasi rebus		Porsi						
11	1	Nasi rintang / jagongan		Porsi						
12	2	Ravon		Porsi						
13	3	Rojak		Porsi						
14	4	Cap cai		Porsi						
15	5	Gelut		Porsi						
16	6	Gado - gado		Porsi						
17	7	Gulung		Porsi						
18	8	Kebayak		Porsi						
19	9	Sate		10 Trunk						
20	0	Soto		Porsi						
21	1	Sop		Porsi						
22	2	Sireni		Porsi						
23	3	Sayur campur		Porsi						
24	4	Nasi goreng		Porsi						
25	5	Nasi kembang		Porsi						
26	6	Nasi udak		Porsi						
27	7	Resoleng		Potong						
28	8	Ikan bakar		Ekor						
29	9	Ikan goreng		Ekor						

**KOKOK DAN TEMBAKAU**

Makanan / Konsumsi		Lainnya		Jumlah Konsumsi		Nilai (Rp)	
Banyaknya (0,00)	Nilai (Rp)	Banyaknya (0,00)	Nilai (Rp)	Kolom (5) + (7) + (8)	Kolom (6) + (9) + (10)	(11)	
<p><b>JADI LAINNYA</b></p>							
				21	26		

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Is Susenas Rice Consumption in Urban Areas Understated?

**APPENDIX F**  
**SAMPLE DIARY FOR FOOD ITEMS: 1996 SBH**



Republik Indonesia  
Biro Pusat Statistik

RAHASIA  
**SBH96-HR**

Lampiran 2

**SBH 96**  
SURVEI BIAYA HIDUP

**SURVEI BIAYA HIDUP 1996**  
**BUKU CATATAN HARIAN**  
Konsumsi Rumah tangga Untuk Makanan,  
Minuman, Rokok dan Tembakau

Propinsi : JAWA TENGAH  
Kabupaten/Kotaja \*) : BANYUWANG  
Kecm/Kotif\*) : PURWAKERTO  
Petaran : .....  
Nomor Kode Sampel : 212.501

Nomor Urut Sampel : 03  
Nama Kepala RT : MURJONO  
Hari : 1 (SENIN)  
Tanggal-Bulan-Tahun : 3 JUNI 1996

Isikan jenis barang, kualitas/merk, banyaknya dalam satuan, nilai dalam rupiah, dan cara perolehan dari jenis barang yang dikonsumsi rumah tangga

Nomor Urut	Uraian Jenis Barang	Kualitas/Merek	Banyaknya Dalam Satuan	Nilai Konsumsi (Rp.)	Cara perolehan (kode)
(1)	(2)	(3)	(4)	(5)	(6)
1	Beras	Cisadane	1 kg	1000	1
2	Kecap	ABE	10 ml	100	1
3	Ketela pohon	Segar	1/2 kg	250 P)	3
4	Sayur asem	Segar	1 bungkus	300	1
5	Gakam	Hancure	10 gram	10	1
6	Kangkung	Segar	5 ikat	500 P)	3
7	Telur ayam kampung	Baik	3 butir	600 P)	2
8	Roti manis	Coklat	2 biji	600	1
9	Gado-gado	Dengan lontong	2 bungkus	1000	3
10	Rokok kretek filter	Jarem super	2 batang	200	1
11	Cabe merah	Segar	2 buah	100	1
12	Ikan teri	Medan	2 ons	600	1
13	Minyak goreng	Bimoli	100 ml	200	1
14	Biji anakt	Smart	2 potong	20000	3
15	Beras	IR	100 kg	75000	1

\*) Coret yang tidak perlu

Kode kolom (6) :  
Pembelian ..... 1  
Produksi sendiri ..... 2  
Lainnya ..... 3

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## APPENDIX G

### SAMPLE SUMMARY SHEET FOR FOOD ITEMS: 1996 SBH



REPUBLIK INDONESIA  
BIRO PUSAT STATISTIK

**SBH 96**  
SURVEI BIAYA HIDUP

RAHASIA  
**SBH96-LK**

### SURVEI BIAYA HIDUP 1996

LEMBAR KERJA, KONSUMSI MAKANAN, MINUMAN, ROKOK DAN TEMBAKAU  
SELAMA SEMINGGU

I. PENGENALAN TEMPAT		
1. Propinsi		□ □
2. Kabupaten/kotamadya *)		□ □
3. Kota/Kota administratif *)		
4. Kecamatan		
5. Kelurahan		
6. Strata		
7. Nomor wilayah pencacahan		
8. Nomor kode sampel		□ □ □ □ □ □
9. Nomor kelompok segmen		□
10. Nomor urut sampel		□ □
11. Nama kepala rumah tangga		

II. KETERANGAN PETUGAS		
Uraian	Pencacah	Pengawas
1. Nama petugas		
2. NIP/NMS *)		
3. Tanggal	s.d	s.d
4. Tanda tangan		

\*) Coret yang tidak sesuai

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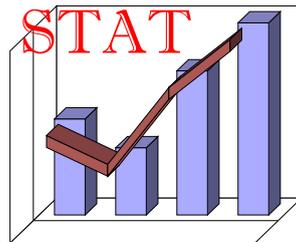
Is Susenas Rice Consumption in Urban Areas Understated?

**PREPARATIONS  
FOR AGRICULTURE CENSUS 2003:  
PROGRESS REPORT 5**

Report # 66

by  
**Suwandhi Sastrotaruno**

December, 2002



**Statistical Assistance to the Government of Indonesia (STAT) Project**  
USAID Contract No. PCE-I-00-99-00009-00

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## **I.      INTRODUCTION**

This is the fifth progress report on preparations for the Agriculture Census 2003, through the end of October, 2002. Section II discusses data collection on the Village Potential activities. Section III covers issues relating to the general rehearsal held in North Sumatra. Finally Section IV briefly discusses other outstanding issues. The main recommendations at this point are: (a) to ensure that a manual is produced for field operations and (b) to continue to lobby aggressively with the main players to provide funding for 100 percent enumeration in 2003.

## **II.     DATA COLLECTION OF VILLAGE POTENTIAL**

Data collection activities of the Village Potential survey were completed at the end of October, covering 69145 villages. Response was received from 42438 villages or 61.4 percent (see Table 1). Such a high response was fortunate given the absence of a support letter from the Minister of Internal Affairs.

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**Table 1**  
**ST-03 PODES Documents Received**

Province	Target	Received	Percentage
11. Nangroe Aceh Darussalam	5608	0	0.0
12. Sumatera Utara	5337	4516	84.6
13. Sumatera Barat	2086	77	3.7
14. Riau	1570	1605	102.2
15. Jambi	1161	730	62.9
16. Sumatera Selatan	2698	2707	100.3
17. Bengkulu	1162	0	0.0
18. Lampung	2110	1762	83.5
19. Kep. Bangka Belitung	317	317	100.0
<i>Sumatera</i>	<i>22049</i>	<i>11714</i>	<i>53.1</i>
31. DKI Jakarta	267	0	0.0
32. Jawa Barat	5750	3667	63.8
33. Jawa Tengah	8549	8555	100.1
34. D.I Yogyakarta	438	438	100.0
35. Jawa Timur	8464	6019	71.1
36. Banten	1476	0	0.0
<i>Jawa</i>	<i>24944</i>	<i>18679</i>	<i>74.9</i>
51. B a l I	686	686	100.0
52. Nusa Tenggara Barat	734	60	8.2
53. Nusa Tenggara Timur	2546	2550	100.2
<i>Bali, Nusa Tenggara</i>	<i>3966</i>	<i>3296</i>	<i>83.1</i>
61. Kalimantan Barat	1433	0	0.0
62. Kalimantan Tengah	1328	1330	100.2
63. Kalimantan Selatan	1969	1165	59.2
64. Kalimantan Timur	1321	367	27.8
<i>Kalimantan</i>	<i>6051</i>	<i>2862</i>	<i>47.3</i>
71. Sulawesi Utara	1190	0	0.0
72. Sulawesi Tengah	1436	958	66.7
73. Sulawesi Selatan	3130	2688	85.9
74. Sulawesi Tenggara	1551	1278	82.4
75. Gorontalo	372	376	101.1
<i>Sulawesi</i>	<i>7679</i>	<i>5300</i>	<i>69.0</i>
81. Maluku	845	113	13.4
82. Maluku Utara	743	474	63.8
94. Papua	2868	0	0.0
<i>Maluku and Papua</i>	<i>4456</i>	<i>587</i>	<i>13.2</i>
<b>INDONESIA</b>	<b>69145</b>	<b>42438</b>	<b>61.4</b>

The next step for the BPS central office is to ensure that the remaining regional offices complete their socialization of results and send their final data for verification.

### III. GENERAL REHEARSAL IN NORTH SUMATRA

#### A. Coverage

The general rehearsal for the 2003 Agricultural Census was conducted in North Sumatra and covered three sub-districts in three different districts: Kualuh Selatan (Labuhan Batu district), Bandar Pulau (Asahan district) and Pantai Labu (Deli Serdang district). It covered all sub-sectors in agriculture, namely: paddy, secondary crops, horticulture, herbs and ornamental crops, estate crops, forest culture, hunting and picking forest products, animal husbandry, fish culture in wet land, public water, brackish water and sea, fish catching in public water and sea. For the purpose of training and sample selection, secondary crops, horticulture and animal husbandry were grouped together since most farmers engage in all three activities.<sup>1</sup>

#### B. Listing

Listing operations using ST03-L1, ST03-L2, ST-KBL2 and ST03-L2(Sc) were completed during the third week of October. Using ST03-L1, the enumerator could directly select ten households engaged in paddy culture and then enumerate them using ST03-Padi. However, it was discovered that some of the census blocks that should have been major paddy culture locations did not have any paddy farmers, which was not plausible. The reason turned out to be some classification error in the Population Census database. A further problem was the delay in sending the completed ST03-Padi questionnaires, which should have been received by the BPS central office by the end of October. Until all these questionnaires are received, it is not possible to adequately evaluate results of this part of the operation.

With respect to the ST03-L2 questionnaire, it appears that training did not adequately prepare enumerators, especially for filling Blocks IV B, VB, VI B and VII B. Instructions for these blocks state that if a household's engagement in one agricultural commodity is less than a set limit, then the enumerator should ask about the possibility of combining output of groups of commodities so as to reach (or exceed) Rp. 700,000. However, responses for these blocks were mostly blank.

As for ST03-L2 (Sc), it was discovered that most enumerators did not use these forms during enumeration because they were afraid that the questionnaires would get dirty. Instead, they wrote the answers on separate sheets and were asking questions from prepared notes. That increases the risk of missing certain questions. There was also evidence of inadequate handling of questionnaires, which consist of two separate one-page documents. It is recommended that one double folio combined questionnaire be printed. That will make it easier to process, particularly

---

<sup>1</sup> This follows a recommendation in an earlier report (Sunwandhi Sastrotaruno, *Preparations for Agriculture Census 2003: Progress Report #4*, STAT Project Report #61, September, 2002, p. 3).

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if scanning will be used.

### C. Sample Selection

For selecting the sample, supervisors in district offices should obtain information from ST03-L2 and ST03-L2 (Sc) and transcribe it into various sub-sectoral forms: ST03-LK.PHT (see Appendix A) for secondary crops, horticulture and animal husbandry; ST03-LK.KEBUN (see Appendix B) for estate crop culture; ST03-LK.IKAN (see Appendix C) for fishery culture or catching; and ST03-LK.HUTAN (see Appendix D) for forestry or hunting. Ranked commodities (*komoditi unggulan*) obtained from the listing should be compared with the original prepared lists. This process is time consuming and may result in the ST03-L2 (Sc) form becoming dirty before scanning.

From these worksheets, the supervisor should then summarize results for the whole sub-district (see Appendix E) to make it possible to select proportionally in each block so that the targeted household could be selected. With the exception of households engaged in forest culture or hunting (since data on these sub-sectors in the Population Census 2000 were found to be unreliable), the selection should be done by district officials. The targeted household for each sub-sector is provided in Table 2.

**Table 2**  
**Estimated Number of Households Engaged in Non-paddy**

Description	Labuhan Batu	Asahan	Deli Serdang
<i>Number of census blocks</i>	106	120	81
<i>Census Blocks by sub-sector:</i>			
Secondary crops, horticulture & animal husbandry	70	50	60
Estate crops	40	50	25
Fishery	37	21	57
Forestry etc	106	120	81
<i>Estimated households selected</i>			
Secondary crops, horticulture & animal husbandry	350	250	300
Horticulture	420	300	360
Animal husbandry	140	100	120
Estate crops	360	450	225
Fishery	222	126	342
Forestry-1	212	240	162
Forestry-2	50	60	40

From the summary of each sub-district (*kecamatan*), the supervisor at the district level can then select randomly the targeted number of households. Selected households can then be transcribed into the ST03-DSRT (*Daftar sampel rumah tangga tani* - selected farm household list) form for each sub-sector (see sample in Appendix F). This list can then be provided to the

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enumerators for enumerating each sub-sector in each block.

Under normal circumstances, BPS can recruit enumerators and supervisors once household selection is done. However, given the little time remaining before the end of the financial year, it is advisable to begin recruitment based on estimates of the number of households and of the anticipated workload of enumerators and supervisors. Table 3 provides an illustrative allocation for the three districts in the general rehearsal assuming the following workload per enumerator: 2 census blocks (about 26 households) for secondary crops, horticulture and animal husbandry; 3 census blocks (about 27 households) for estate crops; 4 census blocks (about 24 households) for fishery; and 4 census blocks (about 30 households) for forestry.

**Table 3**  
**Illustrative Allocation of Enumerators and Supervisors for Non-paddy**

Description	Labuhan Batu	Asahan	Deli Serdang
<i>Secondary crops, horticulture &amp; animal husbandry</i>			
enumerators	35	25	30
supervisors	12	8	10
<i>Estate crops</i>			
enumerator	13	17	8
supervisors	4	6	3
<i>Fishery</i>			
enumerator	9	5	14
supervisors	3	2	5
<i>Forestry</i>			
enumerator	7	10	7
supervisors	2	3	2

#### **D. Training & Enumeration of Non-paddy**

Training of non-paddy enumerators and supervisors was held in Medan between 30 October and 3 November. The estimated enumerator workload was based on results of the Population Census 2000. Hopefully, the workload difference between the estimate and the results of ST03-L2 or ST03-L2 (Sc) will not be significant.

Enumeration of non-paddy was expected to start on 2 November and to be completed by 20 November. However, I suspect that because of the fasting month (*Bulan Puasa*), work will be much slower and enumeration will probably not be completed before the end of December.

#### **E. Document Processing**

No processing is necessary for ST03-L1 because this document is only used for selecting households engaged in paddy culture. As for ST03-L2, after being used for selection of

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households engaged in non-paddy culture for Asahan and Labuhan Batu, they will be scanned at BPS Sumatera Utara and the central office respectively, while Deli Serdang will be processed manually in the district. Scanning can hopefully be done quickly, because the documents will need further processing using ST03-LKOC to release preliminary figures.

The paddy and other detailed questionnaires should be sent to the central office for processing, where they will be managed by the relevant sub-sectoral sub-directorate.

#### **F. Reporting**

There is no manual written for district or provincial reporting. The responsibility of BPS district or provincial offices was discussed during several meetings. However, there still is no guidance as to the type of reporting to the central office every week/month. It is recommended that explicit and clear guidelines be written by the BPS central office for field operation procedures and reports be produced and distributed to all participating field offices.

### **IV. OTHER ISSUES**

#### **A. Budget**

The proposed budget for conducting the Census in 2003 was Rp. 483 billion, but Bappenas only allocated around Rp. 150 billion. On 27 September, BPS held a Steering Committee meeting and discussed the four budget alternatives presented in Table 4.

**Table 4**  
**Budget Alternatives for Conducting Census in 2003 Financial Year**

<b>Alternative</b>	<b>Amount (Rp. Billion)</b>	<b>Coverage</b>
A	483	Complete census as planned
B	433	Reduction in district official refreshing, training reduced from 4 days (with lodging) to 3 days (no lodging)
C	393	Postponement of paddy enumeration to 2004 financial year, reduction of processing support, only process about 30 percent of possible workload
D	283	Only 100 percent of rural census blocks and 20 percent of urban census blocks, postponement of paddy enumeration to 2004 financial year, reduction of processing support, only process about 30 percent of possible workload

The Director General of Food Crops of the Ministry of Agriculture promised to discuss with his Secretary General the possibility of allocating funds from their budget to the Census. A further meeting was attended by the Secretaries General of the Ministry of Agriculture, the

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Ministry of Forestry and the Ministry of Sea and Fishery, and the BPS Director of Agricultural Statistics. Participants agreed on the great need for having complete benchmark agricultural data and expressed their willingness to use some of their budget to support the Census. We recommend that this be followed up by BPS with representation at the Echelon I level. Whatever the final decision, BPS should be ready with specific action plans for all four alternatives in Table 4.

### **B. Support Letter**

A letter of support from the Minister of Internal Affairs, the Minister of Forestry, the Minister of Sea and Fisheries and the Minister of Transport and Communication should be requested so that the document distribution and regional data collection can be adequately supported by provincial governors and district officials.

### **C. Field Operations**

It is essential to prepare a manual for field operations, covering: program activity, time table, responsible officials, recruitment processes, training activity, flow of documents and official support, enumerating/supervising, processing and preliminary/final release.

Program activity should mention that the Census will cover:

- updating of village maps followed by Village Potential data collection
- updating of the Agriculture Enterprise Directory and relevant data collection
- complete enumeration
- census sample of paddy, non-paddy and farm incomes
- post enumeration survey
- agri-business study

Every one of the above components should cover all relevant activities, starting with planning (including technical support) and including preparations (methodology and alternative funding), data collection, document flows, processing, analysis and finally publication. Responsibility and authority at every level should be clearly stated for each activity. Sample selection should be based on the targeted estimate (which will hopefully be prepared by the district office).

December 13, 2002

Preparations for 2003 Agriculture Census: Progress Report 5

**APPENDIX A**  
**ST03-LK.PHT**

REPUBLIC OF INDONESIA  
**2003 AGRICULTURAL CENSUS**  
RECAPITULATION OF HOUSEHOLD  
ENGAGE IN SECONDARY CROPS, HORTICULTURE  
AND ANIMAL HUSBANDRY

*Confidential*

Length of copying ... minutes

I. LOCATION IDENTIFICATION	
1. Province	
2. District/Municipality	
3. Sub district	
4. Village	
5. Village classification	Urban – 1 Rural – 2
6. Sample Code Number	
7. Number of census block	

II. SUMMARY			
1. Number of Households SP2000-L1 (To be filled by district/municipality office)		10. Number of households engaged in crops ..... (Block V column (10) of last pages	
2. Number of households listed (Block IV column (4) item c of last pages)		11. Number of households engaged in crops .....(Block V column (11) of last pages	
3. Number of households engaged in secondary crops (Block V column (5) to (8) of last pages)		12. Number of households engaged in other horticulture crops ..... (Block V column (8) of last page	
4. Number of households engaged in crops ..... (Block V column (5) of last page		13. Number of households engaged in animal husbandry ..... (Block V column (13) to 16) of last page	
5. Number of households engaged in crops ..... (Block V column (6) of last page		14. Number of households engaged in animal husbandry ..... (Block V column (13) of last page	
6. Number of households engaged in crops ..... (Block V column (7) of last page		15. Number of households engaged in animal husbandry ..... (Block V column (14) of last page	
7. Number of households engaged in other secondary crops ..... (Block V column (8) of last page		16. Number of households engaged in animal husbandry crops ..... (Block V column (15) of last page	
8. Number of households engaged in horticulture ..... (Block V column (9) to (12) of last page		17. Number of households engaged in other animal husbandry (Block V column (16) of last page	
9. Number of households engaged in crops ..... (Block V column (9) of last page			

III. OFFICIAL INFORMATION	
1. Name of the official	
2 Date of copying/ supervision	
4. Signature	



December 13, 2002

Preparations for 2003 Agriculture Census: Progress Report 5

**APPENDIX B**  
**ST03-LK.KEBUN**

REPUBLIC OF INDONESIA  
**2003 AGRICULTURAL CENSUS**  
RECAPITULATION FOR HOUSEHOLDS  
ENGAGED IN ESTATE CROPS

*Confidential*

Length of copying ... minutes

I. LOCATION IDENTIFICATION	
1. Province	
2. District/Municipality	
3. Sub district	
4. Village	
5. Village classification	Urban – 1 Rural – 2
6. Sample Code Number	
7. Number of census block	

II. SUMMARY			
1. Number of households SP2000-L1 (to be filled by district/municipality office)		5. Number of households engaged in crops ..... (Block V column (6) of last page)	
2. Number of households listed (Block IV column (4) item c of last pages)		6. Number of households engaged in crops ..... (Block V column (7) of last page)	
3. Number of households engaged in estate crops (Block V column (5) to (8) of last page)		7. Number of households engaged in other estate crops ..... (Block V column (8) of last page)	
4. Number of households engaged in crops ..... (Block V column (5) of last page)			

III. OFFICIAL INFORMATION	
1. Name of the official	
2 Date of copying/ supervision	
4. Signature	



December 13, 2002

Preparations for 2003 Agriculture Census: Progress Report 5

**APPENDIX C**  
**ST03-LK.IKAN**

REPUBLIC OF INDONESIA  
**2003 AGRICULTURAL CENSUS**  
RECAPITULATION FOR HOUSEHOLDS  
ENGAGED IN FISHERY

*Confidential*

Length of copying ... minutes

I. LOCATION IDENTIFICATION	
1. Province	
2. District/Municipality	
3. Sub district	
4. Village	
5. Village classification	Urban – 1 Rural – 2
6. Sample Code Number	
7. Number of census block	

II. SUMMARY			
1. Number of Households SP2000-L1 (to be filled by district/municipality office)		7. Number of households engaged in sea water fish culture .....	(Block V column (8) of last page)
2. Number of households listed (Block IV column (4) item c of last pages)		8. Number of households engaged in public water fish culture .....	(Block V column (9) of last page)
3. Number of households engaged in fish culture (Block V column (5) to (9) of last page)		8. Number of households engaged in fish catching .....	(Block V column (10) to (11) of last page)
4. Number of households engaged in fresh water pond culture.....		8. Number of households engaged in sea fish catching .....	(Block V column (10) of last page)
5. Number of households engaged in wet land culture..... (Block V column (6) of last page)		8. Number of households engaged in public water fish catching .....	(Block V column (11) of last page)
6. Number of households engaged in brackish water pond culture .....			
(Block V column (7) of last page)			

III. OFFICIAL INFORMATION	
1. Name of the official	
2 Date of copying/ supervision	
4. Signature	



December 13, 2002

Preparations for 2003 Agriculture Census: Progress Report 5

**APPENDIX D**  
**ST03-LK HUTAN**

REPUBLIC OF INDONESIA  
**2003 AGRICULTURAL CENSUS**  
RECAPITULATION FOR HOUSEHOLDS  
ENGAGED IN FORESTRY

*Confidential*

Length of copying ... minutes

I. LOCATION IDENTIFICATION	
1. Province	
2. District/Municipality	
3. Sub district	
4. Village	
5. Village classification	Urban – 1    Rural – 2
6. Sample Code Number	
7. Number of census block	

II. SUMMARY			
1. Number of Households SP2000-L1 (to be filled by district / municipality office)		5. Number of households engaged in crop culture ..... (Block V column (6) of last page	
2. Number of households listed (Block IV column (4) item c of last pages)		6. Number of households engaged in crop culture ..... (Block V column (7) of last page	
3. Number of households engaged in Forestry (Block V column (5) to (8) of last page)		7. Number of households engaged in other crops (Block V column (8) of last page	
4. Number of households engaged in crops..... (Block V column (5) of last page		8. Number of households engaged in collecting forest product (Block V column (9) of last page	

III. OFFICIAL INFORMATION	
1. Name of the official	
2 Date of copying/ supervision	
4. Signature	





December 13, 2002

Preparations for 2003 Agriculture Census: Progress Report 5

**APPENDIX F****DSRT**

REPUBLIC OF INDONESIA  
**2003 AGRICULTURAL CENSUS**  
 HOUSEHOLD SAMPLE LIST  
 OF PALAWIJA

*Confidential*

I. LOCATION IDENTIFICATION	
1. Province	
2. District/Municipality	
3. Sub district	
4. Village	
5. Village classification	Urban – 1 Rural – 2
6. Sample Code Number	
7. Number of census block	

II. OFFICIAL INFORMATION	
1. Name of the official	
2 Date of copying/ supervision	
3. Signature	

III. SUMMARY	
1. Number of households in secondary crops (Block IV column (5) last sequence number	
2. Number of main households..... (Block IV column (7) number of households .....	
3. Number of main households..... (Block IV column (8) number of households....	
4. Number of main households .... (Block IV column (9) number of households ...	

