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LIVING CONDITIONS OF PLANTATION WORKERS AND PEASANTS ON JAVA IN 1939-1940

Coolie Budget Commission
(translation by Robert Van Niel)

TRANSLATION SERIES

MODERN INDONESIA PROJECT

Southeast Asia Program
Department of Far Eastern Studies
Cornell University
Ithaca, New York

Price—$1.50

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LIVING CONDITIONS OF PLANTATION WORKERS AND PEASANTS ON JAVA IN 1939 - 1940

Final Report of the

Coolie Budget Commission

instituted by decree of the Directors of Justice and Economic Affairs of December 23, 1938 No. E./82/20/1

December 30, 1941

(translation by Robert Van Niel)

TRANSLATION SERIES

Modern Indonesia Project
Southeast Asia Program
Department of Far Eastern Studies
Cornell University
Ithaca, N. Y.
1956

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PREFACE

One of the most important socio-economic surveys undertaken by the Netherlands East Indies Government was the investigation carried out during 1939 and 1940 of living conditions among workers on Javanese plantations and some of the peasants domiciled nearby. The comprehensive report based on this investigation was not completed until December 8, 1941 -- on the eve of the Japanese invasion. Neither the Netherlands or Netherlands Indies governments ever made the report public, the circulation of copies being restricted to certain government officials. While the significance of this study was pointed out more than three years ago by Professor W. F. Wertheim in his brief but useful summary in Pacific Affairs (June 1953, pp. 158-164), only a few copies remained, and they were of course of value only to those with a knowledge of Dutch. In line with its policy of making important Indonesian and Dutch language materials concerning modern Indonesia more widely available, the Cornell Modern Indonesia Project is publishing this English translation of the principal volume of the report. (There are, in addition, two supplementary volumes of statistical tables; however, they are of considerably less utility, and the cost of publishing them would have been prohibitive.)

The data contained in this report should be of value not only to those interested in rural social conditions at the close of Dutch colonial rule. They should also prove helpful to an appreciation of why Indonesian plantation workers were so frequently inclined to give positive support to the leaders of the Indonesian revolution. In addition, they may prove useful to those interested in understanding why post-revolutionary labor organizations have been able to develop such strong support among plantation workers.

This translation is the work of Professor Robert van Niel of the Department of History at Russell Sage College. The Cornell Modern Indonesia Project wishes to express its gratitude to him for undertaking it.

George McT. Kahin, Director
Cornell Modern Indonesia Project

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GLOSSARY OF TERMS

koelie	laborer
tani	Indonesian peasant
sawah	wet rice fields (fields which are irrigated or inundated)
tegalan	dry crop fields
mandur	foreman, native labor supervisor
gula pasar	market sugar (white cane)
gula djawa	Javanese sugar (brown)
slametan	ceremonial feast
Vorstenlanden	the principalities of Surakarta and Jogjakarta
Fl (florin)	the same as guilder (100 cents) and worth about $.40 U.S. at the time of this survey (1939-1940)

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TABLE OF CONTENTS

	page
I. INTRODUCTION	1
A. Reasons for the Coolie Budget Investigation	1
B. Installation of the Coolie Budget Commission	1
C. Activities of the Coolie Budget Commission	2
II. PURPOSE, EXTENT, AND METHOD OF THE BUDGET INVESTIGATION	6
A. Purpose of the Budget Investigation	6
B. Extent and Method of the Budget Investigation	6
1. Number of Plantations Involved in the Budget Investigation	6
2. Number of Families Involved in the Budget Investigation	8
3. Duration and Time of the Budget Investigation	9
4. Method of Investigation	10
5. Collation of the Data	11
III. THE FAMILIES: THEIR HOUSING AND LAND AND LIVESTOCK POSSESSIONS	12
A. The Families	12
1. Composition of the Families	12
a. Introduction	12
b. Composition of the Families	12
c. The Number of Wage Earners	14
d. Variation in the Size of Families	18
2. The Age of Families and Their Various Members	21
a. The Age of the Families	21
b. The Age of the Family Members	24
3. The Height and Weight of Family Members	26

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page

a. Height and Weight at Different Ages 26

b. The Relationship between Height and Weight 28

c. Height and Weight of Men and Women from 26 through 45 Years 29

d. Height and Weight per Family Member 31

e. Height and Weight per Family Member in Families of Various Sizes 32

B. Housing and Social Arrangements 34

1. The Housing 34

a. The Manner of Housing 34

b. The Physical Structure of the Houses 35

2. The Social Arrangements 37

C. Possession of Land and Livestock 38

1. Possession of Land 38

a. The Number of Land Owners and the Type of Land of the Families Living off the Plantation 38

b. The Size and Tax Rates of the Lands 40

c. Utilization of the Land 41

d. Utilization of the Garden-plots 42

2. Possession of Livestock 43

IV. INCOME AND EXPENDITURES 44

A. Income and Consumption Expenditures 44

1. Variability of Income 44

a. Income from Work for the Plantation 44

b. Other Sources of Income 45

2. Difficulties in Determining the Size of the Income 45

a. Income from Work for the Plantation 45

b. Other Sources of Income 46

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page

3. The Size of the Income 46

4. The Composition of the Income 47

5. The Size and Distribution of the Income and Consumption Expenditure 51

B. The Cash Situation 52

1. The Significance of the Cash Situation 52

2. The Monetary Receipts 54

3. The Monetary Expenditures 56

4. The Size of the Monetary Variance 58

5. The Changes in the Financial Position 59

V. WORK AND WAGES 61

A. The Work on the Plantation 61

1. The Importance of the Number of Work Days and Work Hours 61

2. The Size of the Number of Work Days and Work Hours 61

a. Work within the Family 61

b. The Work of the Men and Women within the Laboring Age 63

c. The Work Involved in Some of the Leading Tasks 65

B. The Wages from the Plantation 67

1. The Importance of the Daily and Hourly Earnings 67

2. The Size of the Daily and Hourly Earnings 68

a. The Daily and Hourly Earnings of the Men and Women within the Laboring Age 68

b. The Daily and Hourly Earnings for Some of the Leading Tasks 70

VI. CONSUMPTION 73

A. Consumption Expenditures 73

1. The Meaning of Consumption Expenditures 73

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page

2. The Grouping of Consumption Expenditures 73

3. Comparison of Consumption Expenditures 73

4. Consumption Expenditures Subdivided According to Manner in Which the Consumption Articles Were Acquired 75

5. Consumption Expenditures Divided into 6 Groups 76

6. The Expenditures for Food 78

7. The Expenditures for Fire, Illumination and Water 86

8. The Expenditures for Clothing 88

9. The Expenditures for Housing 90

10. The Expenditures for Luxury Items 92

11. Miscellaneous Expenditures 93

B. The Amounts of Consumption Articles Consumed 97

1. The Trustworthiness of the Acquired Data 97

2. The Amounts of the Specified Food Articles Consumed 99

3. The Price of the Specified Food Articles 101

C. The Nutritive Value of the Menu 103

1. Figuring the Nutritive Value 103

2. The Amount of Food Consumed 104

3. The Caloric Value of the Food 108

4. The Albumin Consumption 110

5. Fat Consumption 112

6. Carbohydrate Consumption 114

7. Vitamin A Consumption 116

8. Vitamin B_1 Consumption 117

9. The Importance of Albumins, Fats and Carbohydrates in the Calory Provision 119

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page

10. The Expensiveness of the Food 119

SUMMARY 122

1. Introduction 122

2. Purpose, Extent and Method of the Budget Investigation 123

3. The Families: Their Housing and Land and Livestock Possessions 123

4. Income and Expenditures 125

5. Work and Wages 125

6. Consumption 127

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I. INTRODUCTION

A. Reasons for the Coolie Budget Investigation

Due to the drop in prices of our export products on the world market in the years 1929-1936 the entrepreneurs were forced to lower their costs of production. The wages of the native workers suffered so much from this readjustment that the government, fearing that the wages would fall below the subsistence level, felt obliged to draw the attention of the entrepreneurs to this factor and to call upon their cooperation in guarding the wage level. In the same month that the Netherlands left the gold standard, September 1936, the Central Statistical Office began the systematic collection and collation of wage statistics for the Labor Office. The marked rise in prices of products at that time, due in part to the devaluation, appeared, after almost a year, to have had but little effect upon the wage level. Therefore in a circular on September 7, 1937, the government urged the entrepreneurs to make a thorough reassessment of workers' wages. In order to set a standard, there would have to be an increase in the 1936 wages concordant with the increased cost of living since devaluation, that is to say, about 20%. Although most of the entrepreneurs heeded the desire of the government to effect wage increases, there was within the next year no general trend toward making the wages 20% higher than in 1936. The results of the wage statistics, furthermore, permit only conclusions about the relative development of the wages. The statistics give no indication if the wages can be regarded as "reasonable" in an absolute sense. Since there are local variations in methods of living on Java and consequently in cost of living, it was deemed desirable to institute an investigation into these variations. With the aid of the statistics thus obtained the rise in wages could better be determined, and a better insight into the real value of the wage could be obtained.

B. Installation of the Coolie Budget Commission

The above mentioned consideration led, after lengthy consultation with the entrepreneurs, to the establishment of a commission whose mission was "the formulation of the bases for the standard budgets of Javanese plantation workers in the various plantation districts of Java," because "it is necessary for the government, in exerting control over the reasonable adjustment of the wage of plantation workers on Java to the costs of living, to have more statistics and to obtain a better view of the local level of these costs."

This Commission, generally called the Coolie Budget Commission, instituted by decree of the Directors of Justice and Economic Affairs of December 23, 1938 No. E/82/20/1, consisted of the following appointees:

a. member and chairman: J. J. Ochse, First class civil servant for General Economic Affairs at the Department of Economic Affairs;

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b. members:

1. H. J. Top, Chief of the Labor Inspection and/or a labor inspector to be appointed by him;

2. Dr. H. M. J. Hart, First class civil servant assigned to the Head of the Central Statistical Office;

3. Drs.(1) H. C. M. van Kessel, Second Secretary of the General Agricultural Syndicate;

4. M. G. Mout, Administrator of the sugar factory Watoetoelis.

As the appointed labor inspector, Mr. Top appointed Mr. W. A. Gravelaar who, because of his departure for Medan after the first meeting, was replaced by Mr. H. W. A. A. Martens, Head of Labor Inspection on Java.

The Commission met six times. These meetings were on March 7, May 26, and August 29, 1939; April 3 and August 14, 1940; and April 2, 1941. The final meeting which was to be held on December 18, 1941, could not be held because of the war.

A provisional report was submitted to the Directors of Justice and Economic Affairs on April 5, 1941. The final report was completed on December 30, 1941 after each of the members had had the opportunity to make his comments on it.

Any eventual processing of the data was delegated to the Central Statistical Office.

C. Activities of the Coolie Budget Commission

In the interest of the work of the Coolie Budget Commission, the Central Statistical Office compiled a memorandum for the first meeting of the Commission which gave a summary of the available material on Wage-, Dietary-, Budget- and other investigations which might possibly be of interest to the Coolie Budget Commission. This memorandum drew attention to the incompleteness of earlier investigations and to the difficulties which might be expected in the proposed investigations.

A draft agenda was appended to this memorandum and was discussed at the first meeting of the Coolie Budget Commission on March 7, 1939. This draft agenda suggested only a detailing and completing of previous investigations as well as a few "fill in" investigations on certain points such as:

Transl. ftnt.:
(1) Drs. (doctorandus) is the title given to persons who have completed all work for the doctor's degree with the exception of the dissertation.

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1. wage analysis in order to determine the size of incomes from plantations;
2. work analysis to enable piece work to be figured on a time basis;
3. complete income analysis, that is to say, investigations to determine the total income of workers' families in order to discover the degree of dependence of the worker's family upon the plantation;
4. supplementary investigations into the size of families and the number of breadwinners in the workers' families.

In consultation with the administrators, forms were drawn up for these investigations. It was also decided that if possible, additional budget investigations would be made, for it was feared that the results of the earlier--probably somewhat outdated--investigations would not be entirely usable for the Commission's purposes.

Most of the second meeting of the Coolie Budget Commission (May 26, 1939) was devoted to the consideration of two memoranda.

The first: "The influence of the social welfare and the size of the family on food consumption" written by Dr. A. M. P. A. Scheltema, was a rewriting of the investigations held in 1921 in several districts of the former Residency of Pasoeroean. This memorandum might be regarded as a supplementation and detailing of Dr. H. M. J. Hart's memorandum which was discussed at the first meeting. As a consequence of this memorandum the need for more, preferably detailed, budget investigations was stressed.

The second memorandum: "Partial wage-analysis of 100 tappers' families employed by the rubber plantations of West Java" was meant to serve as groundwork for possible future budget investigations. Although the need for limiting the wage-condition-analysis to simple affairs in order to speed the work of investigation was emphasized at this meeting, various difficulties were pointed out which hindered a rapid solution of the problem. Noted here are the following questions: What is the difference between a family and a household? What is the influence of crop failure on the composition of the menu? To what extent must workers be dependent upon the plantation for their income before they are counted as plantation workers? Will investigation in three or four places be adequate for application in some 70 odd areas? Will not the great variability in method of work and manner of payment complicate the reevaluation of piece work into work on a time basis?

Even though it would mean a significant widening of the area of work for the Commission, it was decided, as a result of the discussions at this meeting, to conduct a number of budget investigations, for it was felt that otherwise many questions and difficulties could not be solved with any degree of certainty.

It was decided first to try to obtain wage-analyses on 22 plantations. A desire to save time and work lay behind this decision. With the aid of these wage analyses the most representative plantations and most representative families could rapidly be

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selected. This would avoid starting budget investigations on plantations which might later appear to be unsuitable. These wage-analyses asked: composition of the family, number of wage earners, number of work days, income from wages, other possible sources of income, daily wage and job wage, and the type of housing.

Immediately after this meeting the (questionnaire) forms were agreed upon and discussed with the administrators of the 22 selected plantations. Simultaneously an orienting budget investigation was started on a rubber plantation in West Java.

A draft summary of the results of the family-analyses (see table 1(1)) could be discussed at the third meeting on August 29,1939. As a result of this discussion eleven plantations were selected for conducting complete budget investigations. The account of the budget investigation held in West Java was not yet complete at that time. Nevertheless the Commission was notified that this method of investigation was completely satisfactory for attaining the expected results and that therefore it would be advisable to continue in this manner.

In the months of September and October eleven investigations were started and from December 1939 through February 1940 eight more. As part of these investigations a separate department, "Coolie Budget Investigation," was established in the Central Statistical Office. This department served as a secretariat for the Coolie Budget Commission and, under the direction of Mr. Huizenga, carried out the budget investigations and the numerous calculations associated therewith.

In February 1940 the first complete report appeared. It was about a rubber plantation in West Java. This was followed shortly by the reports on two coffee plantations in East Java. At the fourth meeting on April 3, 1940 these reports were discussed. It was decided to continue in the same manner and since none of the sugar plantations had been investigated during the harvesting and processing season, it was decided to repeat the investigations on three sugar plantations in May and June. Also two forestry reserves would now be drawn into the investigation. These five investigations were conducted in the months of April through June 1940.

The reports of the various plantations appeared rather regularly thereafter. (2) Occasionally special investigations were started. After ten reports had appeared the Directors of Justice and Economic Affairs requested an interim-recommendation. This was compiled and discussed at the fifth meeting on August 14, 1940.

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(1) The tables referred to here and throughout the report are contained in Vols. II and III of the Final Report of the Coolie Budget Commission, which are as yet unpublished.

(2) For the dates of appearance see Appendix 1.

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Since the content and conclusions of this recommendation were felt by some members of the Coolie Budget Commission to exceed the original mandate of the Commission, it was decided to ask the opinion of the Directors of Justice and Economic Affairs. Thereafter the supplemented and wherever necessary revised recommendation, after being approved at the sixth meeting of the Commission, was presented to the above mentioned department heads on April 2, 1941.

At this meeting it was also decided to go no further with the work of the Coolie Budget Commission than "the formulation of the bases for the standard budgets." In the reports of the separate plantations the facts are given in worker groups and in income classes within these worker groups just as they have been recorded. All members of the Coolie Budget Commission agreed with the assembled facts, and with the manner in which the basic materials for the formulation of the bases for the standard budgets for the plantation workers in Java was assembled. They also concurred with the manner in which this basic material had been incorporated into the reports and in the draft-recommendation.

This recommendation had little influence upon the work of the Commission so that finally on December 8, 1941 the first part of the final report which follows hereupon was presented to the members of the Coolie Budget Commission in draft form. The report was to be discussed in a meeting which was set for December 18, 1941. Due to the declaration of war against Japan on December 8, 1941 this meeting could not be held.

Mr. Hart, at the request of the chairman, discussed the comments of Mr. Mout in Soerabaya on December 22, those of Messrs. Top and Martens in Batavia on December 24, and those of Mr. van Kessel on December 30 also in Batavia. Thereafter the report could be drawn up.

Gratitude may be expressed at this time to the plantation organizations and the directorates and administrators of the separate plantations who either directly or indirectly have assisted in the collection of the necessary data. The Labor Office, which placed many of its employees at the disposal of the Coolie Budget Commission, the Division of Agriculture and Industry, which also loaned personnel, and the civil servants of the Department of Internal Administration, who were always most cooperative, have all had a share in producing the final result.

Further, the invaluable work of Dr. S. Postmus, Head of the Peoples' Nutritional Institute, who conducted investigations on health and nutritional conditions of workers' families on seven plantations, and of Dr. A. Siegenbeek van Heukelom, who compiled a general medical summary from the data contained in the reports of the Coolie Budget Commission and in the reports of Dr. Postmus, must be mentioned.

Finally, a special word of thanks to Mr. L. H. Huizenga, head of the "Coolie Budget Investigation" department, who, with the

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personnel at his disposal, directed his tireless energy and attention to the work both in and outside his office and brought it all to successful completion.

II. PURPOSE, EXTENT, AND METHOD OF THE BUDGET INVESTIGATION

A. Purpose of the Budget Investigation

The purpose of the budget investigation was to obtain an insight into the living conditions of workers' families on Javanese plantations.

Naturally it was impossible for the Commission to conduct budget investigations on a large number of plantation enterprises on Java (at the end of 1939 there were 1182 plantation enterprises on Java; this counts plantations with two or more crops as one). However, in order to get as accurate as possible a picture, certain plantations were selected for the budget investigation which, in consultation with the plantation organizations, were regarded as representative of the leading plantation centers of Java.

B. Extent and Method of the Budget Investigation

1. Number of Plantations Involved in the Budget Investigation

The number of plantations involved in the budget investigation is given in the table below.

NUMBER OF PLANTATIONS INVOLVED IN THE BUDGET INVESTIGATION

Province:	Number of plantations							Number of investigations						
	tea	coffee	rubber	tobacco	sugar	timber	total	tea	coffee	rubber	tobacco	sugar	timber	total
West Java	3	-	1	-	-	-	4	3	-	2	-	-	-	5
Central Java	-	-	3	1	2	-	6	-	-	3	1	4	-	8
East Java	-	3	2	1	2	2	10	-	3	2	2	3	2	12
Java	3	3	6	2	4	2	20	3	3	7	3	7	2	25

The total budget investigation thus involved 18 plantation enterprises and two timber reserves of which 5 plantations (1 rubber plantation, 1 tobacco plantation, and 3 sugar plantations) were investigated twice.

The above table shows that the number of plantations was largest in East Java and smallest in West Java. Also only two types (tea and rubber) were investigated in West Java and only three types in Central Java. The number of plantations investigated is smaller for West Java than for Central Java and much

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smaller than for East Java where four types (coffee, rubber, tobacco, and sugar) of plantations were investigated. In view of the fact that rubber plantations are more evenly distributed over all of Java than the other plantations, the number of investigations of rubber plantations is greater than for other types.

THE DISTRIBUTION OF THE FIVE LEADING TYPES OF PLANTATIONS AND TIMBER RESERVES

Province:	Number of plantations at the end of 1939 (1)						
	tea	coffee	rubber	tobacco	sugar	total	timber (2)
West Java	261	35	366	-	8	670	10
Central Java	18	70	73	27	38	226	17
East Java	20	189	172	14	56	451	20
JAVA	299	294	611	41	102	1347	47

Province:	Area (in hectares) under cultivation at the end of 1939						
	tea	coffee	rubber	tobacco	sugar	total	timber (3)
West Java	93213	1004	130334	-	7880	232431	88930
Central Java	6309	12629	28078	8255	35427	90698	313222
East Java	5640	71917	76948	16121	51640	222266	411373
JAVA	105162	85550	235360	24376	94947	545395	813525

(1) Plantations with two or more crops are counted under each crop.

(2) Number of teak wood enterprises.

(3) Extent of the teak wood area of which 757682 hectares was in operation at the end of 1939.

The cultivated area of the investigated plantations is, with the exception of the sugar plantations, larger than the general Javanese average for each type of plantation.

From Table 2 it can be noted that the tea and coffee plantations which were investigated lay at a much higher elevation (400-1700 m) than the other investigated plantations of which the sugar plantations were situated at the lowest elevation (0-150 m) and the rubber plantations the highest (50-700 m).

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THE SIZE OF THE PLANTATIONS

Type of Plantation:	Average cultivated area of each plantation in hectares.	
	Budget Investigation	Java
tea	691	352
coffee	1031	291
rubber	1343	385
tobacco	1197	595
sugar	912	931
timber	36607	17309

This table also shows that the three sugar plantations with the lowest elevation which were investigated lay in the most densely populated districts. It must also be mentioned that in the district of Padangan in the residency of Bodjonegoro an investigation was instituted among five categories of village inhabitants /owners of wet rice lands (sawahs), owners of dry rice lands (tegalan), owners of garden-plots (erven), owners of homes, and non-owners/, but the data from this investigation has not been incorporated in this report.

2. Number of Families Involved in the Budget Investigation

A general picture of the number of families involved in the budget investigation is given in the table below. A total of 89 families (Table 3) was not incorporated in the final analysis because of incompleteness of data (departure or breakup of family during investigation, insufficient distinction between expenditures for consumption and business expenses, or complication of family income and expenses through the presence of boarders, etc.) or for other reasons (untrustworthiness, abnormal expenses for the celebration of certain festivities, etc.).

THE NUMBER OF FAMILIES INVOLVED IN THE BUDGET INVESTIGATION

Province:	Number of families (1) by type of plantation						
	tea	coffee	rubber	tobacco	sugar	timber	total
West Java	182	-	133	-	-	-	315
Central Java	-	-	197	74	278	-	549
East Java	-	153	233	132	262	301	1081
JAVA	182	153	563	206	540	301	1945

(1) Includes tani families (Transl. ftnt: Tani is an Indonesian agriculturalist. Rather than translate this term as either peasant or farmer it was thought best to retain the term 'tani' throughout.)

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In Table 3 these families are further broken down according to occupation into: (1) field laborers, (2) factory laborers, (3) supervisors and skilled laborers and (4) tanis; and according to domicile into: (1) families living on the plantation and (2) families living off the plantation. Since there were 25 investigations, the average number of families per investigation is 80. From the breakdown of wage-earner families living on or off the plantation in Table 3, it appears that, with exception of a rubber plantation located on the boundary between West and Central Java, the families which were investigated in Central Java did not live in plantation houses, while those in West and East Java, with the exception of those on two sugar plantations and a timber reserve, were living in plantation housing areas. There was a total of 568 families living in plantation housing out of a total of 1555 wage earner families which were investigated. Table 3 also shows that the group of field laborers, which forms the most important group of workers, has been selected more often for investigation than the other groups of factory laborers, or supervisors and skilled laborers: in fact the relative number is respectively, 1015, 253 and 287 families. In order to compare local living conditions there were a total of 390 tani families incorporated in 22 of the 25 investigations.

3. Duration and Time of the Budget Investigation

All data incorporated in the report refers to a budget investigation that was conducted for 30 consecutive days. The duration as well as the scope of the investigation was kept within certain limits.

A summary of the time at which various of the investigations occurred is given in the table below (see also Table 2):

THE TIME OF INVESTIGATION

Number of investigations	Date of investigation	
	month	year
1	June/July	1939
11	September/October	1939
7	December/January	1939/1940
1	January/February	1940
2	April/May	1940
3	May/June	1940

From this it can be seen that the investigations occurred during three periods, namely in the months September/October 1939, December 1939/January 1940, and April/June 1940. The time at

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which the investigation is held can greatly influence the result. This is especially true in regard to the two following points:

1. the general food situation (harvest time or "meager" time),
2. the opportunity for work on the plantation.

In Java the main harvest of the chief crop, rice, occurs in the months from April to June, while the meager time is from December to February. During and immediately after the harvest the population in general has a sizeable rice surplus (from their own harvest, from share cropping, from wages paid in kind, etc.). In this period rice is cheapest. This also benefits those persons who have to buy their rice. For this reason the investigation of the West Java rubber plantations which had been conducted in first instance in the period shortly after the harvest in the months of June and July 1939, was repeated again in December 1939 and January 1940.

The work opportunities on coffee, tobacco and sugar plantations varies greatly in the course of a year, for harvesting is conducted only a few months of the year. During these months in which the crop is not only harvested but must also be processed, there is a much greater demand for labor than in the other months of the year. This causes a sharp rise in the total wage receipts from these plantations in these periods while in many cases there is also an increase of individual wages. Consequently the time of investigation is of great importance for plantations of this type. Therefore the investigation was conducted twice on three of the four sugar plantations, the first time shortly after the harvesting and processing period when there was little demand for labor, and the second time at the beginning of the harvesting and processing period during the time that one of the most important operations in the preparation of the new crop was also still in process. For similar reasons two investigations were held on one of the two tobacco plantations. The coffee plantations were investigated only at the time following the picking. The time of investigation is of less relevance for the tea, rubber, and timber plantations, for here the work goes on fairly regularly throughout the year.

In view of the above, the results obtained on the various plantations must be accepted with the necessary reservations. Naturally the Commission did not have the liberty to stretch the duration and scope of investigations.

4. Method of Investigation

All local investigations were supervised by the Coolie Budget Commission and were conducted by civil servants (i.e., agricultural consultants, labor inspectors, etc.) placed temporarily at the disposal of the Commission. The necessary office and clerical personnel were hired locally.

Based upon the results of the pre-investigation and after local orientation, those families who by composition and by size

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and nature of income were deemed to be most representative of the various employment categories, were, after consultation with the local plantation and administrative personnel, chosen for the budget investigation. After these families had been informed of and reassured about the impending investigation, and the clerical personnel had been instructed about their job, the actual budget investigation could commence.

For 30 consecutive days the data concerning consumption, expenditures, income, and any other relevant information of the previous day were gathered family by family. The data were assembled in household books (each family was kept in a separate book), in which a daily record could be kept of:

1. the quantity, value and source of newly acquired and used articles and whether they were bought on credit, or for cash, or in barter;
2. monetary expenditures, not only for newly acquired articles paid for in cash, but also for business, amortization of debt, wages, etc.;
3. income, wages as well as other forms of income;
4. the number of hours worked on and off the plantation by the various members of the family, and the nature of the various types of work;
5. the number and type of persons sharing in the consumption.

In addition data were assembled on:

a. the composition of the family which included the familial relationship of each person, sex, age, height, weight, place of birth and other statistics (general body build, reasons for not working, etc.);
b. the housing which included whether it was a plantation house, own house, or another person's house, measurements, and other features;
c. land ownership (wet land, dry lands and/or fish ponds) for which the area, type, and back taxes were noted from the village registers--letter C--and which also gave the ownership rights, the method of control, the nature of the crop and the yield;
d. livestock ownership which included the number and type of animals and whether they were or were not full grown;
e. social and other provisions.

5. Collation of the Data

The results from each plantation were compiled in a report which listed in consecutive order the composition, housing, land and livestock possessions, income, expenditures, and the quantity and quality of the menu for the families which had been investigated. In addition a tentative summary was made for the first 10 plantations investigated; later this was done for all 25 investigations. These separate reports and tentative summaries have not been published.

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The chapters of the first volume of this final report deal consecutively with:

1. Introduction;
2. Purpose, extent, and method of the budget investigation;
3. The families: their housing and land and livestock possessions;
4. Income and expenditures;
5. Work and wages;
6. Consumption.

The last four chapters are repeated in the second volume in which the families are broken down into economic categories. This volume also discusses the effect of the composition of the family on consumption and the composition of the standard budgets.

III. THE FAMILIES: THEIR HOUSING AND LAND AND LIVESTOCK POSSESSIONS

A. The Families

1. Composition of the Families

a. Introduction

All persons completely incorporated in the household, whether blood members of the family or not, were regarded as members of the family; this excepted boarders. Members of the family who were not present during the period of the investigation were not counted in the family.

In the Tables from 4 through 17 a survey of the families which were investigated on each plantation is given. These tables distinguish between families living on and those living off the plantation. The family members were further grouped according to sex (male-female), according to familial relationship /(1) head of family and wife of head of family, (2) children of head of family and/or his wife, and (3) other members of the family/, and according to age (0-12, 12-16, 16-61, and over 60 years). The age division is based upon the following four work criteria:

1. 0-12 years--child labor /according to the Staatsblad van Nederlandsch-Indië (Official Gazette) of 1925 no. 647, all work of children below 12 years old is regarded as child labor/;
2. 12-16 years--labor of adolescents (there is a general rule in the Labor Office that regards all heavy physical labor and all labor longer than eight hours per day as undesirable for this group);
3. 16-61 years--normal laboring age (and regarded as such by the Coolie Budget Commission);
4. over 60 years--aged (and regarded as such by the Coolie Budget Commission).

b. Composition of the Families

The table below gives a summary of the average number of family members per family among various types of workers.

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THE SIZE OF THE FAMILY

Province:	Type of plantation	Average number of members per family: Living on the plantation: field laborers	factory laborers	superv.& skilled laborers	Living off the plantation: field laborers	factory laborers	superv.& skilled laborers	tanis
West Java								
	tea	3.9	3.9	4.4	3.9	-	-	4.9
	rubber	3.6	-	-	4.0	-	-	5.8
Central Java								
	rubber	3.3	3.9	4.0	4.7	5.0	4.8	4.5
	tobacco	-	-	-	5.0	4.8	5.5	5.1
	sugar	-	-	-	5.0	4.5	5.6	4.4
East Java								
	coffee	3.4	3.8	3.7	-	-	-	6.8
	rubber	3.8	4.8	4.3	5.7	-	-	5.8
	tobacco	4.4	-	5.3	4.4	-	-	5.4
	sugar	-	-	-	4.6	5.4	5.9	5.5
	timber	3.7	-	5.7	5.6	5.7	5.1	5.6

From this table it appears that the size of the families both on and off the plantations shows a general increase from field laborer to supervisor and skilled laborer, and that the size of the tani families can be reckoned among the largest.

Further it appears that the field laborer families who live on the plantations are somewhat smaller in size than those of the factory laborers and supervisors and skilled laborers. Also the relatively smaller size of the field laborer families living off the tea and rubber plantations in West Java and off the tobacco and sugar plantations in East Java as compared to the size of the tani families is striking.

From the table below it appears that the average size of families living on the plantation is smaller than those families living off the plantation and tani families.

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COMPOSITION OF FAMILIES LIVING ON AND OFF THE PLANTATION

Type of family	Average number of members per family			
	heads of family and their wives	children (incl. step children) of the family head	other members of the family	total
Wage earner families living on the plantation.....	2.0	1.6	0.4	4.0
Wage earner families living off the plantation.....	1.9	2.4	0.7	5.0
Tani families...	1.9	2.5	0.9	5.3

This is largely due to the fact that the number of children is less, and to a lesser degree that there are fewer family and non-family members living with families who live on a plantation than with those living off the plantation. As a point of interest it can be pointed out that the number of blood relations living in with the wage earner families was 92% of the rubric "Other members of the family" for those living on the plantation, 89% for those living off the plantation, and 79% for the tani families. The blood relations living with the families were the in-laws of the head of the family in 32, 38 and 20% of the cases respectively.

c. The Number of Wage Earners

In Tables 18 through 35 the number and percentage of wage earners for the various types of wage earner families has been figured. All persons who worked for the plantation during the period of investigation, regardless of the time worked or the size of the wage earned, were counted as wage earners. (1)

Persons who were employed for wages outside the plantation under investigation were not counted. A digest of the results of Tables 18 through 29 is given in the table below.

(1) The total daily wages of a family divided by the number of wage earners does not, thus, give an accurate picture of the normal daily earning derived from the plantation.

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AVERAGE NUMBER OF WAGE EARNERS PER FAMILY

Province:	Type of plantation	Living on the plantation			Living off the plantation		
		field laborers	factory laborers	superv. &skilled laborers	field laborers	factory laborers	superv. &skilled laborers
West Java	tea	2.2	1.8	1.7	1.5	-	-
	rubber	1.7	-	-	1.4	-	-
Central Java	rubber	1.9	1.9	1.3	1.5	1.4	1.1
	tobacco	-	-	-	- a)	1.3	1.0
	sugar	-	-	-	1.3	1.1	1.3
East Java	coffee	2.0	2.3	2.0	-	-	-
	rubber	2.2	1.7	1.9	1.9	-	-
	tobacco	2.0	-	1.6	2.1	-	1.0
	sugar	-	-	-	1.6	1.3	1.4
	timber	1.3	-	1.1	1.1 b)	1.1	1.0

a) Excluding 38 field laborer families

b) Excluding 29 field laborer families

The number of wage earners could not be accurately determined in the case of 38 families working for a Central Javanese tobacco plantation and of 29 families on both timber reserves. These families had an agreement with the plantation whereby they would care for a certain section of the plantation for a certain period. They received term payments (a contracted sum would be paid in term payments) and other advantages (on the timber reserves, for example, they could use part of the ground placed under their care for crops of their own) for this care. Just as in most tani families almost all of the family members were at one time or another involved in this work, so also in the case of the timber reserves it was not possible to draw a line between work for the enterprise and work for personal ends.

From the above chart it appears that the wage earner families living on the plantation have in general a larger number of wage earners per family than those living off the plantation, while in both categories the number per family decreases in the following order: field laborers, factory laborers, and supervisors and skilled laborers. The small number of wage earners per family in the timber enterprises must be attributed to the fact that timber work cannot in general be done by women, and as pointed out in Tables 21 through 23 and 27 through 29 the wage earners here are almost without exception men.

In the following table the percentage of wage earners in each age group is figured for the various groups of wage earners living

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on and off the plantation.

THE NUMBER AND THE PERCENTAGE OF WAGE EARNERS IN THE DIFFERENT AGE GROUPS

Age group in years	Average number of wage earners per family					
	living on the plantation			living off the plantation		
	field laborers	factory laborers	superv. & skilled laborers	field laborers	factory laborers	superv. & skilled laborers
0 - 12	0.1	0.0	0.1	0.1	0.0	0.0
12 - 16	0.1	0.1	0.1	0.1	0.0	0.0
16 - 61	1.8	1.8	1.5	1.2	1.1	1.2
over 60	0.0	-	-	-	-	-

Age group in years	The number of wage earners as a percentage of the number of family members for each age group					
	living on the plantation			living off the plantation		
	field laborers	factory laborers	superv. & skilled laborers	field laborers	factory laborers	superv. & skilled laborers
0 - 12	9	3	6	5	0	-
12 - 16	62	44	29	30	14	7
16 - 61	80	80	55	49	45	39
over 60	14	-	-	-	-	-

From this table it appears that the wage earners are found primarily to be in the normal laboring age. In all age groups the percentage of wage earners among families living on the plantation is higher than among families living off the plantation. This percentage in the most important laboring age group, 16-61 years, for families living on the plantation is much smaller for supervisors and skilled laborers than for field laborers; while for families living off the plantation it diminishes in the following order: field laborers, factory laborers, and supervisors and skilled laborers. It is further noteworthy that the percentage of wage earners in the 12-16 year age group, that is the group of the adolescent workers, shows a sharp decline in wage earner families both on and off the plantations in the following sequence: field laborers, factory laborers, and supervisors and skilled laborers. The percentage of wage earners in the child labor group (under 12 years) was less than 10 in all categories, and in the cases where it occurred the work was of an assisting nature. Only one wage earner in all the families investigated was above 60 years of age.

The following table computes the percentage of male and female

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wage earners in the 16-61 year age group for the various types of wage earner families.

THE PERCENTAGE OF MALE AND FEMALE WAGE EARNERS IN THE 16-61 YEAR AGE GROUP

Nature of the wage earner family	The number of wage earners in % of the total number of family members in the 16-61 year age group			
	living on the plantation		living off the plantation	
	male	female	male	female
field laborers	94	66	75	24
factory laborers	94	66	81	10
supervisors and skilled laborers	82	27	76	1

From the above table it appears that in the 16-61 year age group only the wives of field laborers and factory laborers living on the plantation are to any sizable extent engaged in plantation work.

Among children (totaling 4% in the case of males and 4.4% in the case of females) and adolescents (26.3% among males and 30.2% among females) the number of girl wage earners was somewhat larger than the number of boy wage earners in families living on as well as off the plantation.

Finally the following table gives a summary of the percentage of wage earners among heads of families and wives of heads of families for the various types of wage earner families: 81% of the male and 68% of the female wage earners are found in this group.

..... Table on page 18.

From the above table it appears that a large percentage of the wives of those families living on the plantation work; even 31% of the wives of supervisors work. On the other hand, the wives of laborers, supervisors and skilled laborers living off the plantation only work on the plantation occasionally.

The data from the individual plantations varies greatly on this particular point.

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THE PERCENTAGE OF WAGE EARNERS IN THE CATEGORY "HEADS OF FAMILIES AND WIVES OF HEADS OF FAMILIES"

Nature of the wage earner family	The number of wage earners in % of the total number of family members in the category "heads of families and wives of heads of families"			
	living on the plantation		living off the plantation	
	male	female	male	female
field laborers	99	68	83	23
factory laborers	100	70	93	11
supervisors and skilled laborers	98	31	99	1

d. Variation in the Size of Families

In Tables 36 through 39 the families are grouped according to the number of members. The following table gives a summary of this.

VARIATIONS IN FAMILY SIZE

Number of members per family	Number of families						
	living on the plantation			living off the plantation			
	field laborers	factory laborers	superv. & skilled laborers	field laborers	factory laborers	superv. & skilled laborers	tanis
2	40	14	14	23	4	3	2
3	108	24	20	80	16	16	42
4	100	33	31	173	34	34	83
5	51	18	28	218	45	33	113
6	18	9	22	130	29	24	82
7	2	6	9	51	12	27	39
> 7	-	1	4	21	8	22	29
total	319	105	128	696	148	159	390

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VARIATIONS IN FAMILY SIZE

Number of members per family	In % of the total number of families						
	living on the plantation			living off the plantation			
	field laborers	factory laborers	superv. & skilled laborers	field laborers	factory laborers	superv. & skilled laborers	tanis
2	13	13	11	3	3	2	1
3	34	23	16	11	11	10	11
4	31	31	24	25	23	21	21
5	16	17	22	31	30	21	29
6	6	9	17	19	20	15	21
7	1	6	7	7	8	17	10
7	-	1	3	3	5	14	7
total	100	100	100	100	100	100	100

From the above tables it appears that the families living off the plantation are on the average larger than those living on the plantation. There were few large families among the latter group. Both on and off the plantation the families became larger in the following order: field laborers, factory laborers, and supervisors and skilled laborers.

If one were to arrange the families according to size in an ascending series, it would appear, that upon reaching 25% of the families in the series (First Quarter), after reaching 50% (Median), and after reaching 75% (Third Quarter), the size of the family is as follows:

THE DISTRIBUTION OF FAMILY SIZE

Place of domicile	Type of family	Average size of family		
		first quarter	median	third quarter
on the plantation	field laborers	2.9	3.6	4.4
	factory laborers	3.0	3.9	4.9
	supervisors & skilled laborers	3.4	4.5	5.6
off the plantation	field laborers	3.9	4.8	5.7
	factory laborers	4.0	4.9	5.9
	supervisors & skilled laborers	4.1	5.3	6.8
	tanis	4.1	5.1	6.1

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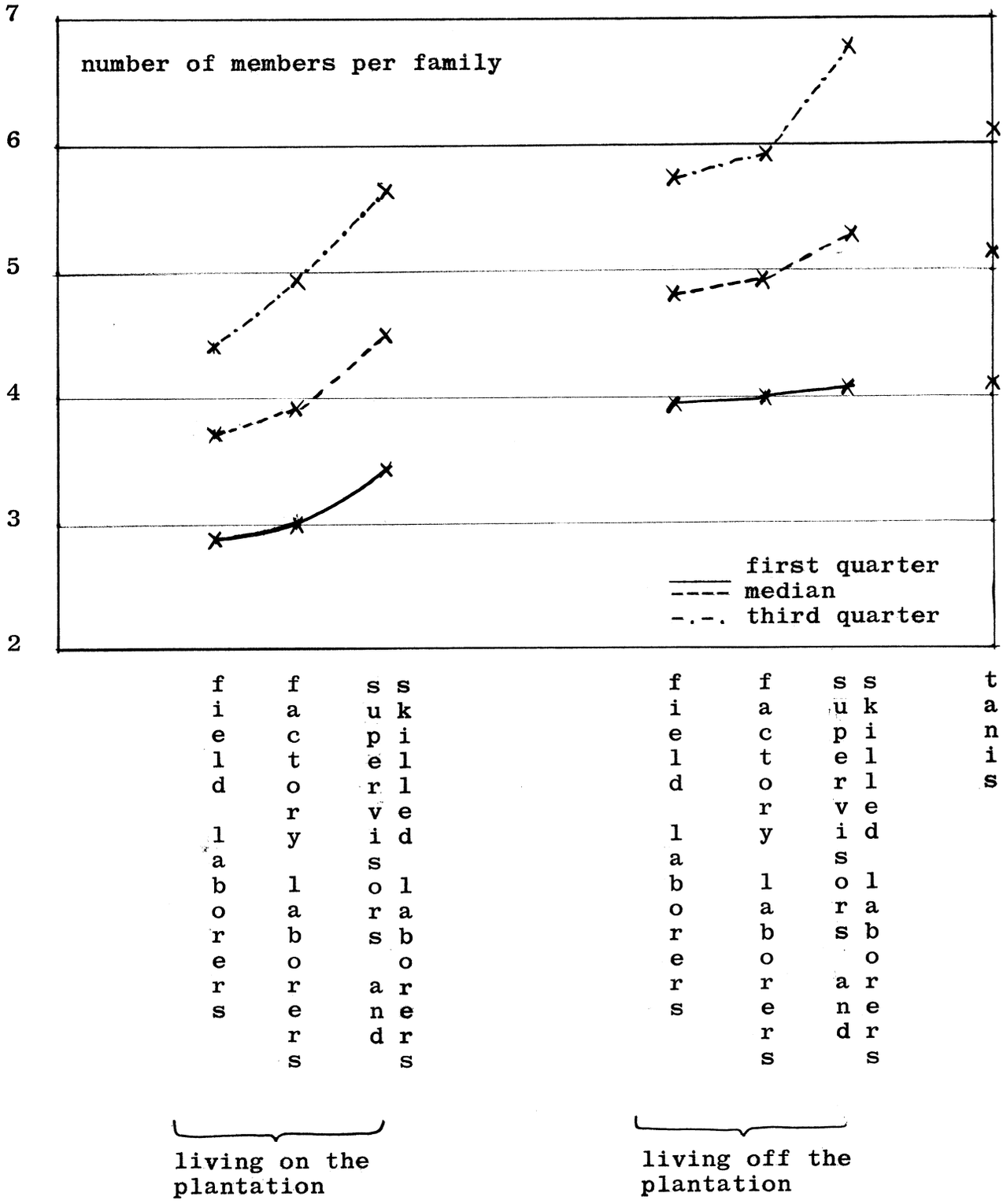
THE DISTRIBUTION OF FAMILY SIZE



Among wage earner families the size of the family seems to increase in the sequence, field laborers, factory laborers, and

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supervisors and skilled laborers. Tani families are normally slightly larger than the families of factory laborers living off the plantation.

In order to appraise the composition of the 2, 3, 4, 5, 6, and 7 person families the following table gives the percentage of "normal" families of the total number of families. A "normal" family consists of a husband and wife and the children of these two. Thus a 2 person family is only a husband and wife, a 3 person family is a husband and wife and their one child, a 4 person family is husband, wife and their two children, etc.

THE PERCENTAGE OF "NORMAL" FAMILIES AMONG THE VARIOUS TYPES OF FAMILIES

Number of members per family	The number of "normal" families in % of the total number of families						tanis
	living on the plantation			living off the plantation			
	field laborers	factory laborers	superv. & skilled laborers	field laborers	factory laborers	superv. & skilled laborers	
2	93	100	93	70	50	67	100
3	78	92	65	79	63	75	74
4	72	61	45	73	68	35	57
5	65	89	56	71	67	39	59
6	67	56	27	53	55	25	44
7	50	33	33	61	83	30	33

Considering the small number of 7 person families among families living on the plantation and the small number of 2 person families living off the plantation, it appears that the percentage of "normal" families among those living on the plantation and also among tanis declines rather regularly as the size of the family increases. This decline is greater among supervisors and skilled labor and tani families, which types of families normally incorporate "other than blood relatives" as has been previously pointed out, than among field and factory laborer families. With an occasional exception, the percentage of "normal" families among wage earner families living off the plantation remains constant.

2. The Age of Families and Their Various Members

a. The Age of the Families

As regards the age of the persons involved in this investigation it should be said that this could only be obtained through round-about methods and estimation. Determination of age was especially difficult among the older people and oftentimes it had to be judged by their memory of certain remarkable events (i.e., the eruption of the Krakatau in 1883) or by the age of their children and grandchildren. Naturally the ages obtained in this

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manner might differ considerably from the actual ages. Table 40 gives the average age of the heads of families and their wives on the various plantations which were investigated. The ages of widows and widowers, unmarried or divorced heads of families, and heads of families with two or more wives, are not included in this table.

THE AGE OF HEADS OF FAMILIES AND THEIR WIVES

Type of family	Average age in years			
	living on the plantation		living off the plantation	
	man	wife	man	wife
field laborers.....	36	29	39	31
factory laborers...	33	27	37	30
supervisors and skilled laborers..	37	28	38	30
tanis.....	-	-	45	35

From this table it appears that the tani families are somewhat older than the wage earner families, and that among the latter those living off the plantation seem to be somewhat older than those living on the plantation. Of the various types of families working as plantation wage earners the factory laborers seem to be somewhat younger than the others. The heads of families are on the average 6-10 years older than their spouses in all categories.

These general conclusions are borne out by the individual plantation statistics (See Table 40).

Finally the following table show the age of "normal" families of various size. The table gives the age of the eldest child as well as of the husband and wife.

..... Table on page 23.

In the above table it appears that the age of the parents in the supervisor and skilled laborer and tani families has no relationship to the age of the eldest child or the number of children in the family. On the average the husband and wife in the tani families are somewhat older than the husband and wife of wage earner families with the same number of children.

It also appears from the above statistics that the age difference between the wife and the eldest child is on the average 18-19 years for supervisors and skilled labor families, 20-21 years for field and factory laborer families, and 21-22 years for tani families.

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THE AGE OF THE HEAD OF THE FAMILY, HIS WIFE, AND THEIR ELDEST CHILD AMONG VARIOUS SIZES OF "NORMAL" FAMILIES

Number of members per family	Average age in years — Living on the plantation								
	field laborers			factory laborers			supervisors & skilled laborers		
	man	wife	eldest child	man	wife	eldest child	man	wife	eldest child
2	31	25	-	27	22	-	37	32	-
3	36	29	6	34	28	5	38	27	7
4	38	31	8	35	29	8	39	30	9
5	39	30	9	33	27	10	35	27	11
6	40	33	12	36	32	12	40	28	14
7	55	48	27	40	37	15	35	27	13

Number of members per family	Average age in years — Living off the plantation									tanis		
	field laborers			factory laborers			superv. & skilled laborers					
	man	wife	eldest child	man	wife	eldest child	man	wife	eldest child	man	wife	eldest child
2	33	27	-	31	29	-	43	29	-	58	50	-
3	35	28	8	33	28	7	36	29	9	47	36	11
4	36	30	8	35	28	8	40	28	13	44	36	12
5	39	31	11	39	31	11	39	32	13	43	34	13
6	41	33	13	39	32	11	40	34	16	43	35	14
7	43	36	15	41	34	11	42	33	14	44	35	15

The above mentioned age differences are influenced on the one hand by the presence of older step children who often differ only little in age with their step mothers (1) and on the other hand by the absence of older children who may already have married out of the family.

(1) This occurs less frequently among families living off the plantation than among those living on the plantation and tanis; percentagewise it accounts for 5%, 10%, and 11% respectively of the total number of "eldest" children.

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b. The Age of the Family Members

In the following table the various categories of family members of the various types of families are divided into five year age brackets.

THE AGE OF THE FAMILY MEMBERS

Age in years	Number of family members: Living on the plantation: field laborers			factory laborers			supervisors & skilled laborers		
	male	female	total	male	female	total	male	female	total
0- 5	95	100	195	52	37	89	34	28	62
5-10	74	91	165	36	21	57	56	33	89
10-15	53	29	82	14	13	27	35	32	67
15-20	27	44	71	11	15	26	24	21	45
20-25	26	49	75	9	36	45	12	40	52
25-30	57	95	152	32	25	57	24	33	57
30-35	64	59	123	21	12	33	33	25	58
35-40	75	60	135	19	13	32	36	23	59
40-45	35	30	65	13	9	22	28	9	37
45-50	45	14	59	11	9	20	7	10	17
50-55	23	13	36	4	4	8	8	3	11
55-60	7	2	9	3	1	4	4	4	8
60 and over	6	8	14	4	3	7	11	6	17
total	587	594	1181	229	198	427	312	267	579

.....Remainder of table on page 25.

From the above statistics it appears that in the age brackets under 20 years the number of males (2345) is somewhat larger than the number of females (2207). In the second age group from 20 to 30 years the number of females is much larger than the number of males, while in the upper age brackets the number of men seems on the average to be larger again.

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THE AGE OF THE FAMILY MEMBERS

Age in years	Number of family members: Living off the plantation: field laborers male	field laborers female	field laborers total	factory laborers male	factory laborers female	factory laborers total	superv. & skilled laborers male	superv. & skilled laborers female	superv. & skilled laborers total	tanis male	tanis female	tanis total
0- 5	270	272	542	77	63	140	59	53	112	138	113	251
5-10	299	305	604	68	69	137	59	69	128	169	142	311
10-15	178	195	373	40	28	68	62	55	117	132	112	244
15-20	101	107	208	18	19	37	52	36	88	112	105	217
20-25	71	117	188	19	21	40	22	33	55	64	61	125
25-30	89	207	296	24	47	71	26	48	74	61	71	132
30-35	162	160	322	35	44	79	35	37	72	65	92	157
35-40	170	116	286	41	21	62	39	33	72	77	74	151
40-45	109	87	196	18	16	34	32	11	43	53	50	103
45-50	88	54	142	20	8	28	22	21	43	60	63	123
50-55	54	43	97	9	8	17	23	9	32	57	42	99
55-60	34	26	60	5	4	9	3	7	10	38	15	53
60 and over	23	38	61	6	15	21	5	24	29	63	24	87
total	1648	1727	3375	380	363	743	439	436	875	1089	964	2053

The following table shows the number of family members in the age groups 0-5,5-10,10-15, 15-50, 50-60, and over 60 years as a percentile of the total number of family members per group for each of the investigated groups.

THE NUMBER OF FAMILY MEMBERS IN % OF THE TOTAL NUMBER OF FAMILY MEMBERS IN CERTAIN AGE CLASSES

Age in years	Number of family members in % of the total number of family members: Living on the plantation: field laborers male	field laborers female	field laborers total	factory laborers male	factory laborers female	factory laborers total	supervisors & skilled laborers male	supervisors & skilled laborers female	supervisors & skilled laborers total
0- 5	16	17	17	23	19	21	11	11	11
5-10	13	15	14	16	11	13	18	12	15
10-15	9	5	7	6	7	6	11	12	12
15-50	56	59	58	51	60	55	53	60	56
50-60	5	3	4	3	3	3	4	3	3
60 and over	1	1	1	2	2	2	4	2	3

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THE NUMBER OF FAMILY MEMBERS IN % OF THE TOTAL NUMBER OF FAMILY MEMBERS IN CERTAIN AGE CLASSES

Age in years	Number of family members in % of the total number of family members											
	Living off the plantation									tanis		
	field laborers			factory laborers			supervisors & skilled laborers					
	male	female	total	male	female	total	male	female	total	male	female	total
0- 5	16	16	16	20	17	19	13	12	13	13	12	12
5-10	18	18	18	18	19	18	13	16	15	16	15	15
10-15	11	11	11	11	8	9	14	13	13	12	12	12
15-50	48	49	49	46	49	47	52	50	51	45	54	49
50-60	5	4	5	4	3	4	6	4	5	9	6	7
60 and over	1	2	2	2	4	3	1	6	3	6	3	4

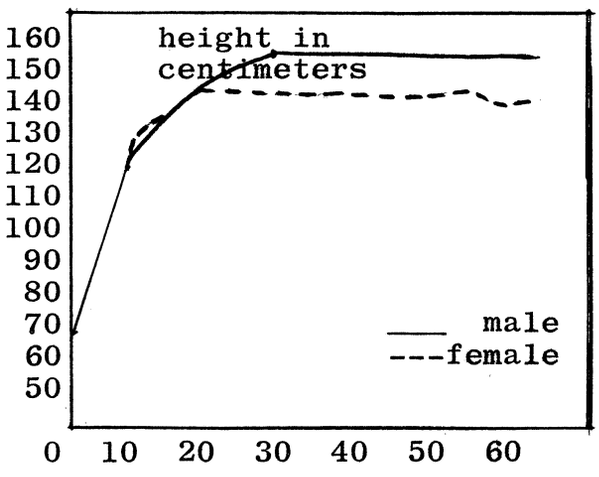
The percentage of family members from 15 to 50 years is larger among families living on the plantation than among families living off the plantation.

3. The Height and Weight of Family Members

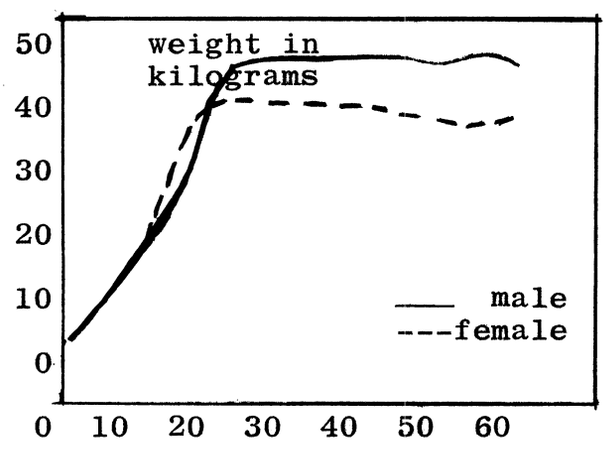
a. Height and Weight at Different Ages

In Tables 41 through 44 the average height and weight of all male and female family members of various ages was recorded for each plantation. The general average of this is given on the following graphs.

HEIGHT AT VARIOUS AGES



WEIGHT AT VARIOUS AGES



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From the above graphs it appears quite evident that both males and females grow at approximately the same rate as regards height up to their 15th year and as regards weight up to their 18th year. After that the males gain ever more in height and in weight, until at maturity (in general occuring among men between their 25th and 30th year and among women between their 20th and 25th year) they are from 10 - 12 centimeters taller and from 5 - 9 kilograms heavier. It also appears that among both men and women the increase in height diminishes slightly after the 7th year and more rapidly after the 15th year, but once full grown their height remains fairly constant up to a ripe old age. As regards weight at various ages it can be noted that the yearly weight increase among both males and females begins slowly (among men until the 8th year and among women until the 6th year), but then increases rather rapidly until a maximum yearly increase is reached among men between 15 and 18 years and among women between 13 and 15 years. Above 18 years of age only the weight of men increases. This is further clarified in the following table which gives the yearly increase in height and weight.

THE RATE OF GROWTH

Age in years	Average yearly increase in height in centimeters		Average yearly increase in weight in kilograms	
	men	women	men	women
1 - 3	8.1	9.4	1.8	2.0
3 - 5	6.6	5.5	1.7	1.8
5 - 7	6.2	6.2	1.6	1.3
7 - 9	4.0	4.8	1.4	1.7
9 - 11	3.6	4.1	1.5	2.0
11 - 13	4.1	3.6	2.0	2.2
13 - 15	4.3	4.3	2.8	3.5
15 - 18	3.5	3.0	3.3	2.2
18 - 23	1.5	0.2	1.0	0.1
23 - 28	0.2	0.1	0.2	0.1

From Tables 41 through 44 it appears that the statistics for the individual plantations show much the same picture as the general averages given here. Wherever unusual discrepancies occur they can be explained by one person having an unusual body build for his age so that his measurements unduly influence the average which oftentimes relates to only a few persons.

From Graphs 5 and 6 we can see that the adult men and women from West Java (respectively 49-52 and 40-44 kg.) are the heaviest and those from Central Java (respectively 46-48 and 38-42 kg.) the lightest. While these weight differences become increasingly apparent among the men from the 5th year onward, they only occur in the women shortly before maturity. Scarcely greater are the differences between the six types of plantations which were investigated. The heaviest of the adult persons are in general found

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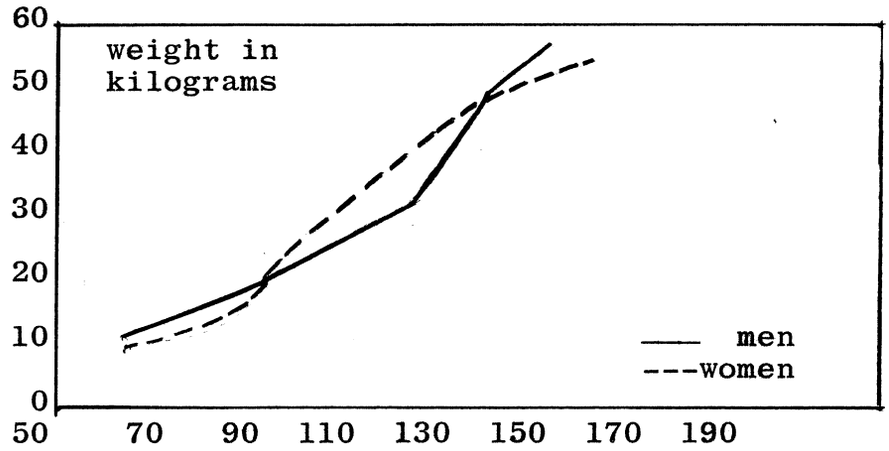
on the tea plantations and the lightest on the rubber plantations (Graphs 7 and 8).

From Graphs 1 through 4 it appears that there is little difference in either the average male or average female height in either West, Central or East Java or among the six types of plantations which were investigated.

b. The Relationship Between Height and Weight

In Tables 45 and 46 the average weight of men and of women is given according to different heights as subdivided into height categories of 10 centimeters each. The general average of all this is given in the following graph.

THE RELATIONSHIP BETWEEN HEIGHT AND WEIGHT



From the above graph we see that up to about 125 cm. in height both men and women weigh about the same. From 125 to 145 cm., that would be at an age of from 11 to 17 years, the women are definitely heavier than the men, while above 145 cm. the opposite is true. Furthermore it can be seen that the weight increases most rapidly up to 145 cm., as has been said above, while above that height the weight increase per added centimeter becomes less, especially for women. One must keep in mind that many women are fully mature when they reach 145 cm., while most men reach 160 cm. However, the sharp decline in the weight increase per added centimeter for women taller than 145 cm. is not found among men taller than 160 cm. Moreover it appears from the following table that the weight per centimeter of height continues to increase for men but only increases up to 140 cm. for women.

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WEIGHT PER CENTIMETER OF HEIGHT IN THE VARIOUS HEIGHT CATEGORIES

Sex	Weight (in kilograms) per cm. of height in various height categories (in cm.)										
	to 80	80-90	90-100	100-110	110-120	120-130	130-140	140-150	150-160	160-170	170 & up
male	0.12	0.14	0.14	0.16	0.17	0.19	0.23	0.28	0.30	0.31	0.33
female	0.12	0.13	0.14	0.16	0.17	0.19	0.25	0.29	0.29	0.29	-

In addition to the above reproduced statistics it also appears from Tables 47 through 50 which give the height and weight of men and women from 26 through 45 years, that the full grown men are somewhat heavier than the full grown women for each centimeter of length: i.e. 0.31 (49.10/158.29 kg.) to 0.29 kg. (42.81/147.56 kg.). As regards the individual plantation statistics it can be said that due to the limited number of persons involved there was sometimes great discrepancy on this point. The differences between the various types of plantations were much slighter; here it is apparent that in the greatest height categories (namely, men above 140 cm. and women between 130 and 160 cm.) the men and women on the tea and coffee plantations were heavier than those on the remaining types of plantations. In height groups above 120 cm. the men and women from West Java seem to be heaviest and those from Central Java lightest, while in the height groups of less than 120 cm. there is little regional difference.

c. Height and Weight of Men and Women from 26 through 45 Years

In Tables 47 through 50 the average height and weight of men and women from 26 through 45 years has been recorded by plantation for the family groups which were investigated. These age limitations were adopted in order to remove, in so far as possible, the influence of youth and old age on height and weight. From the graphs on page 26 we have already seen that both men and women are full grown by their 26th year, after which the height but not the weight remains constant until old age. Principally among women the weight begins to decline after the 30th year; it must be remembered that pregnancies usually occur between a woman's 20th and 30th year. The influence of this upon weight, an influence which undoubtedly exists, cannot be determined by these short term investigations. The following table incorporates the total statistics from Tables 47 through 50 for families living on and off the plantation.

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THE HEIGHT AND WEIGHT OF MEN AND WOMEN FROM 26 THROUGH 45 YEARS

Type of family	Average height per person in centimeters				Average weight per person in kilograms			
	Living on the plantation		Living off the plantation		Living on the plantation		Living off the plantation	
	male	female	male	female	male	female	male	female
field laborers	156.9	146.1	158.0	148.0	48.7	43.0	48.5	42.5
factory laborers	158.0	147.1	159.3	148.3	50.0	44.2	48.9	43.3
supervisors & skilled laborers	159.6	147.2	161.0	149.1	51.5	44.8	51.2	43.2
tanis	-	-	158.2	147.3	-	-	48.9	41.9

In the age category from 26 through 45 years the men and women of the wage earner families who live on the plantation are on the average somewhat shorter and heavier than those living off the plantation. In both of these groups the tallest and heaviest individuals are in general found among the supervisors and skilled laborers and the shortest and lightest among the field laborers. In the case of the men, the choice of the plantation may have been of influence in the above differences which are in any event very small. The women from tani families are somewhat shorter and lighter than those in the field laborer families living off the plantation, while the men are just about as tall and as heavy as the men of field and factory laborer families living off the plantation. Tables 47 through 50 show that although the differences are slight the heaviest persons are encountered on tea plantations, the tallest on timber reserves, and the lightest on rubber plantations. Finally it appears that the height and weight of the men on the majority of the plantations declines in the sequence: supervisors and skilled laborers, factory laborers, and field laborers.

For a better insight into the dispersion of the height and weight of men and women in the 26 to 45 year age category, the group has been divided into classes and expressed in the following graph in which the number of persons in each class is expressed in percentages of the total number of people.

.....Graphs on page 31.

In making the above graphs the people were divided into height classes which increased by five centimeters and into weight classes which increased by five kilograms each. Classes of 5 cm. were used for the height groups because it appeared both during the investigation and from the statistics of those plantations where more than one investigation was held that measuring errors greater than

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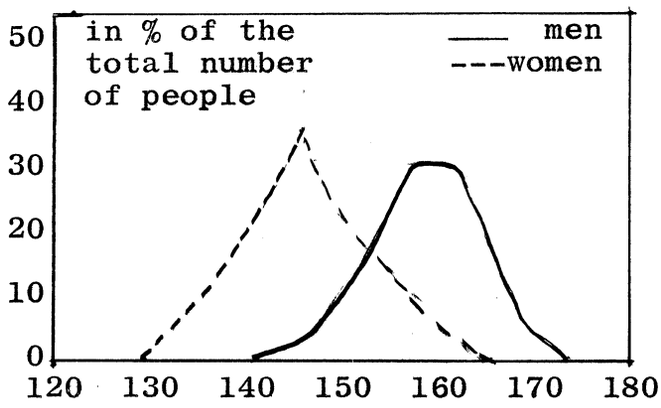
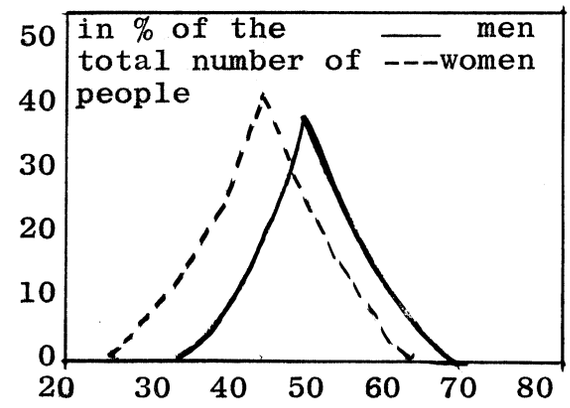
THE DISPERSION OF THE HEIGHT OF MEN AND WOMEN FROM 26 THROUGH 45 YEARS OF AGE



THE DISPERSION OF THE WEIGHT OF MEN AND WOMEN FROM 26 THROUGH 45 YEARS OF AGE



5 cm. were seldom made. Account also had to be taken of the tendency to round off to the nearest 5 cm. The weight classes were made relatively larger because it appeared that in the course of a year, weight, unlike height, is subject to great fluctuations. The chances for error were also greater due to inaccurate scales and to weighing persons with their clothing on. Furthermore the weights show a relatively greater dispersion than the heights as appears from the above graphs which give a rather similar picture. It further appears from the above graphs that the largest part of the men (87%) are between 150 and 170 cm. tall and weigh between 40 and 60 kg. (94%). Most of the women (90%) are between 140 and 160 cm. tall and weigh between 35 and 55 kg. (91%). The relatively greater dispersion of weights becomes clearer when we compare extremes. It appears that the heaviest men and women easily weigh twice as much as the lightest while the tallest men and women do not even exceed the shortest by $1\frac{1}{2}$ times in height.

d. Height and Weight per Family Member

Next to age, height and especially weight are factors which must be taken into account when evaluating consumption figures; especially food consumption figures which, as will be seen, are given per consumption unit, i.e., per family. Tables 51 and 52 give the average height and weight per family member for each of the plantations which were investigated. The following table gives the general average.

.....Table on page 32.

The heights and weights of those family members not measured or weighed were interpolated from the graphs on page 26. The general average was scarcely changed by this.

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HEIGHT AND WEIGHT PER FAMILY MEMBER

Type of family	Average height per family member in cm.				Average weight per family member in kg.			
	excluding persons whose height was not measured		including persons whose height was not measured		excluding persons whose weight was not measured		including persons whose weight was not measured	
	on	off	on	off	on	off	on	off
field laborers	131.5	129.7	131.1	129.7	34.5	32.0	34.3	32.0
factory laborers	129.5	128.9	128.8	128.7	34.4	31.7	34.0	31.6
supervisors & skilled laborers	135.8	133.6	136.0	133.4	37.0	34.3	37.0	34.2
tanis	-	133.8	-	133.7	-	34.0	-	34.0

From the above table it appears that the average height of the family members of the wage earner families living on the plantation was slightly (0.3 cm.) greater than for wage earner families living off the plantation; the average weight, on the other hand, showed a greater difference (2 to 3 kg.). In both groups the members of the supervisors' and skilled laborers' families are noticeably taller and heavier than those of field and factory laborers' families. The statistics for the tani families are very similar to those of the supervisors' and skilled laborers' families living off the plantation. As regards the individual plantation statistics, some of the plantations vary greatly from the general averages given here; in addition to the already mentioned reasons, this is especially due to the unequal sizes of families, the influence of which is considered below.

e. Height and Weight per Family Member in Families of Various Sizes

Tables 53 through 60 give the average height and weight per family member for families of various sizes for the different plantations. One hundred thirty four families with 674 family members could not be incorporated in these tables because data on the height and/or weight of one or more of these families' members were missing. The following table summarizes the total averages of Tables 53 through 60.

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HEIGHT AND WEIGHT PER FAMILY MEMBER IN FAMILIES OF VARIOUS SIZES

Number of members per family	Average height per family member in cm.						
	Living on the plantation			Living off the plantation			tanis
	field laborers	factory laborers	superv. & skilled laborers	field laborers	factory laborers	superv. & skilled laborers	
2	151	153	155	149	154	150	149
3	136	135	141	139	141	143	143
4	130	128	135	130	133	139	136
5	125	123	134	128	129	134	133
6	124	123	135	127	125	133	130
7	129	130	128	126	119	129	132
>7	-	117	136	132	128	130	132

Numbers of members per family	Average weight per family member in kg.						
	Living on the plantation			Living off the plantation			tanis
	field laborers	factory laborers	superv. & skilled laborers	field laborers	factory laborers	superv. & skilled laborers	
2	46.0	51.0	47.3	43.8	44.9	42.3	42.0
3	37.1	36.8	40.1	38.1	37.7	40.5	37.8
4	33.0	34.5	38.1	33.8	34.0	36.5	35.5
5	31.3	30.8	34.7	31.3	31.8	35.0	33.5
6	28.8	29.0	36.2	30.4	29.8	34.6	31.9
7	33.2	31.5	30.8	29.2	26.5	32.2	30.9
>7	-	25.2	34.8	32.0	29.7	31.1	34.3

From the above tables we can clearly see that the height and weight per family member declines sharply among the 2, 3, 4 and 5 person family groups as the family size increases. The decline becomes less sharp in the 5,6, and 7 person family groups, while above this number the height and weight per family member seems to increase again slightly. Excepting the fact that adults from families living on the plantation are on the average somewhat heavier than those living off the plantation, the family members of the 2 member families living on the plantation are noticeably heavier than 2 member family groups living off the plantation; this is due primarily to a larger percentage of them being "normal" families (ca. 95% as opposed to ca. 70%, see also p. 21). Among the 3, 4, and larger family groups there is practically no difference per family member in height and weight for those living on and those living off the plantation. The family members of the 3, 4, 5, and 6 member families of supervisors and skilled laborers are on the average somewhat heavier and taller than those of the

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other family groups. This is primarily due to greater individual height and weight (see page 31) and to somewhat older children (see pages 23 and 25-26).

B. Housing and Social Arrangements

1. The Housing

a. The Manner of Housing

As previously stated on page 9, of the 1555 wage earner families investigated, 568 lived on the plantation and 987 lived off the plantation. Since the statistics on the actual number of wage earner families living on and off the plantation do not exist and also since the number is continually changing, a random number had to be selected for investigation on those plantations which worked with families both on and off the plantation. Only among the field laborers was the stipulation made (among factory laborers and supervisors and skilled laborers the choice was often too limited) that the number could not be less than ten. The above figures as well as the individual plantation figures in no sense indicate the extent to which plantations draw their labor from persons living either on or off the plantation. Table 61 gives the breakdown of the various families which were investigated into those living on and those living off the plantation. The general totals are given in the following table.

THE MANNER OF HOUSING

Type of family	Number of families	
	Living on the plantation	Living off the plantation
field laborers.....	319	696
factory laborers.....	106	147
supervisors and skilled laborers.....	143	144
tanis.....	-	390

In the group of the supervisors and skilled laborers the figures given here differ appreciably from those into which this group was divided for purposes of the investigation. This is primarily caused by the 14 families who live in service houses of the timber reserve O.J. ho. 1 which due to their scattered location (a plantation housing area did not exist) were included in the investigation among those families living off the plantation. Furthermore a small number of families living either on or off the plantation were annexed to the other group because otherwise their number would be too small to be collated. The above chart shows

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that about 30% of the field laborers, about 40% of the factory laborers, and about 50% of the supervisors and skilled laborers who were investigated lived in plantation houses. Plantation living areas, as already noted on page 9, are found mostly in West and East Java, and especially among those plantations which due to their isolated position (on Java mostly the plantations situated at higher altitudes) cannot recruit sufficient laborers from the surrounding areas. The labor supply has to be drawn from a wide area and therefore must be housed on the plantation.

The families living off the plantation are (in Table 61) further subdivided into families which live in their own houses and those which live in a family house or other person's house. The following table gives a summary of the total results of this breakdown.

THE HOUSING OF THE FAMILIES LIVING OFF THE PLANTATION

Type of family	Number of families	
	in own house	in family or other person's house
field laborers.....	617	79
factory laborers.....	135	12
supervisors and skilled laborers.....	123	21
tanis.....	384	6

The families living off the plantation live from 85% (supervisors and skilled laborers) to 98% (tanis) in their own houses, while the remaining homes belonged mostly to family members (often parents) who charged no rent. As with the families living on the plantation, house rent, varying from 25 to 300 cents a month, was rarely paid. From the individual plantation statistics it appears that the lower percentage of own homes among the supervisors and skilled laborers living off the plantation was due to the supervisors and skilled laborers of the timber reserves among whom only 19 of the 34 families which were investigated lived in their own home.

b. The Physical Structure of the Houses

Table 62 gives the general average of the area of the houses of the various types of family groups which were investigated. The total average of this is given in the following chart.

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THE SIZE OF THE HOUSES

Type of family	Average area in square meters	
	Living on the plantation	Living off the plantation
field laborers.....	24	48
factory laborers.....	26	55
supervisors and skilled laborers.....	45	84
tanis.....	-	72

These area figures include the areas of kitchens, stalls, storage spaces, etc. which are in the house. From the above table it appears that the house area of the wage earner families living off the plantation is approximately twice as great as that of the same group living on the plantation. Among both groups the houses of the supervisors and skilled laborers are quite a bit larger than those of the field and factory laborers. The tani houses are somewhat smaller than those of the supervisors and skilled laborers living off the plantation. Table 62 shows us that the statistics for the individual plantations often vary greatly from the general averages discussed above. Notably small houses are found on some of the East Java plantations where the wage earner families are housed in group houses (mostly warehouses) in which as a rule each family is assigned one room. Furthermore the non-plantation houses in West Java are quite a bit smaller than those of Central and East Java. In the cases of plantations which employ personnel from both on and off the plantation the houses of those off the plantation seem to be somewhat larger than those on the plantation.

Tables 63 through 66 analyze the type of floors, walls, and roofs of the houses of the various plantation families which were investigated.

From these tables it appears that the houses of families living off the plantation mostly have walls of woven bamboo, roofs of tile, and a hardened earth floor. The following table which expresses amounts in % of the total will shed further light on this.

.....Table on page 37.

In addition there are a sizable number of houses in the plantation housing areas with stone walls, zinc roofs and/or cement floors, while the majority of houses on foundations with wooden floors (principally on the plantation) or of woven bamboo (off the plantation) are found in West Java. Easily 30% of the houses of the field and factory laborers who lived off the plantation had a roof of nipa palm or something of that sort.

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WALLS, ROOFS, AND FLOORS OF THE HOUSES

Type of family	Number of houses with a wall of woven bamboo in % of the total number of houses		Number of houses with a tile roof in % of the total number of houses		Number of houses with an earthen floor in % of the total number of houses	
	situated on the plantation	situated off the plantation	situated on the plantation	situated off the plantation	situated on the plantation	situated off the plantation
field laborers	85	89	55	64	56	83
factory laborers	73	97	45	67	41	99
superv. & skilled laborers	57	76	63	90	41	74
tanis	-	84	-	83	-	75

As regards the inhabitability of the houses it can be noted that the plantation houses are generally more sturdily constructed and are better maintained than the non-plantation houses. On some plantations, as we have already seen on page 36, the available living space was very small. Furthermore, the homes of the supervisors and skilled laborers, especially among those living off the plantation, were very outstanding as compared with the others.

Finally let it be said that, with the exception of kitchens, most additional buildings (almost entirely stalls and rice sheds) were located on the property of the tanis who, as we shall see later, hold the largest amount of land.

2. The Social Arrangements

Table 67 gives a summary of social arrangements provided by the various plantations for their working personnel. From this table it appears that when a plantation operates either partially or completely with personnel living on the plantation, more social arrangements are provided than when the working force does not live on the plantation. This should arouse no surprise since it will be noted that most of the former type plantations, due to their isolated location, have to attract the working personnel to them. Good housing, recreational facilities, established religious arrangements, convenient shopping arrangements, decent medical and hygenic arrangements, and family subsidies in event of birth, marriage, and death, in addition to high wages, are the most common labor attractions used. The necessary measures to bring this about are much easier in a plantation housing area where the plantation can

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exercise some control and where the inhabitants are known to the plantation than in the housing areas off the plantation which are usually dispersed and oftentimes have only a relatively small number of their inhabitants working for the plantation and even then oftentimes only in a very remote capacity. Usually the social arrangements with regard to this latter group of people consist only of free issuance of simple medication upon request. In addition, on plantations which use personnel from both on and off the plantation, they can also benefit from some of the social arrangements provided for personnel living on the plantation. As an interesting fact it might finally be noted that in addition to the timber reserves, where injury compensation and social arrangements are quite advanced, some of the crop plantations have already started with a type of support for aged workers.

C. Possession of Land and Livestock

1. Possession of Land

a. The Number of Land Owners and the Type of Land of the Families Living off the Plantation

In the following inquiry into land ownership only the land possession is included of those:

1. in whose name lands were entered in the village register which had not yet passed into the hand of another, and
2. who inherited, bought, or in some other manner acquired lands which they had in their possession but which were not entered under their name in the village register because the transfer costs had not yet been paid.

Lots in the plantation housing area, rented lands, lands held on a share crop basis or lands used in any other manner (i.e., contract lands on the timber reserves) do not therefore form part of the landed property of the exploiters, for they exercise no ownership. Among families living on the plantation land ownership was so minimal that it is not felt necessary to inquire into the matter further here. Therefore in the following only the land ownership of those families living off the plantation will be discussed. On Java lands may in the first instance be divided into:

1. Sawahs: these are technically or non-technically flooded agricultural lands
2. Dry grounds: these are dry agricultural lands which can further be subdivided into tegalans and garden-plots. The latter are almost always found near houses. Usually they are closely planted since the crop consists of a relatively large share of perennial plants.
3. Fish ponds and nipa (palm) woods: these are lands which are almost always under water and where fish are caught which may or may not be scientifically bred.

Tables 68 through 71 have divided the families living off the plantation into the type of land they own. Sweet water fish ponds, which are found only among a few tani families near two plantations (see note at bottom of Table 71), are included in the tegalans.

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A summary of the number of land owners is given in the following table.

THE NUMBER OF LAND OWNERS

Type of family (Living off the plantation)	Number of families	Number of families owning land in % of the total number of families	Number of families owning land	Number of families with the type of land mentioned below in % of the total number of land owning families		
				sawah	tegalan	garden-plot
field laborers	696	71	495	48	23	84
factory laborers	147	66	97	51	17	98
supervisors and skilled laborers	144	72	103	43	12	95
tanis	390	100	389	82	51	87

From the above table it appears that over two thirds of the wage earner families owned land. The percentage varied only slightly among the various types of wage earner families. The number of sawah and tegalan owners among the wage earner families was relatively much smaller than among the tani families. The land ownership of the wage earner families is often of different composition than that of the tani families. The following table, which expresses the various combinations of land ownership in percentages of the total, throws further light on this.

THE TYPE OF LAND OWNERSHIP

Type of family (Living off the plantation)	Number of families with the combinations of land ownership listed below in % of the total number of land owner families							
	sawah + tegalan + garden-plot	sawah + tegalan	sawah + garden-plot	sawah	tegalan + garden-plot	tegalan	garden-plot	total
field laborers	8	2	35	3	2	11	39	100
factory laborers	12	-	37	1	4	1	44	100
superv. & skilled laborers	10	-	30	3	-	2	55	100
tanis	31	6	44	1	9	6	3	100

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Among the wage earner families the land ownership in no less than 533 of the 695 cases consisted of sawah plus garden-plot or only garden-plot. The tanis usually own sawah plus tegalan plus garden-plot or sawah plus garden-plot.

b. The Size and Tax Rates of the Lands

Table 72 gives the average land ownership of all families living off the plantation. A general average of the total averages of this table as well as the average total of each land owner is given below.

THE SIZE OF THE OWNED LANDS

Type of family (Living off the plantation)	Average area in hectares							
	Average per family				Average per individual owner			
	sawah	tegalan	garden-plot	total land	sawah	tegalan	garden-plot	total land
field laborers	0.13	0.09	0.08	0.30	0.39	0.52	0.14	0.42
factory laborers	0.15	0.04	0.09	0.28	0.43	0.34	0.15	0.42
superv. & skilled laborers	0.17	0.02	0.09	0.28	0.53	0.25	0.13	0.38
tanis	0.63	0.54	0.24	1.41	0.76	1.05	0.28	1.42

The tani families have about five times as much land as the three groups of wage earner families which were investigated. The latter each own about the same amount of land. The difference per individual land owner is not so great since, as seen above, only about 70% of the wage earner families own land. In addition the most notable fact is that the garden-plots of the tani families are on the average twice as large as those of the wage earner families regardless of the type of family of the latter.

From Table 72 it appears that despite varied results among the plantations, the land ownership per family of the three types of wage earner families which were investigated is about the same in West, Central, and East Java. The exceedingly large land ownership of the tani families living near the twice-investigated plantation W.J. ru. 1 (West Java) is the reason that the land ownership of the Central Javanese tani families is less than a third of that of West Java, and that of East Java only half. A more general conclusion about land ownership in these three provinces may not be drawn from this data.

The size of the land ownership does not form a basis for judging the income derived from the land since the lands, even

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among the families of one plantation, are often of widely varying quality. The tax rate--i.e., a tax on land which is levied according to the productive capacity of the sawahs and dry grounds of each district--gives a better insight into the true meaning of the land ownership in this regard. Therefore, Table 73 gives a breakdown per plantation of the land tax which has to be paid by the families living off the plantation. The general average tax per family as well as per hectare of land is given in the following table.

THE LAND TAX

Type of family (Living off the plantation)	Average yearly land tax per family in cents				Average land tax per hectare in cents			
	sawah	tegalan	garden-plot	total lands	sawah	tegalan	garden-plot	total lands
field laborers	112	14	21	147	850	160	263	493
factory laborers	104	7	31	142	718	177	329	509
superv. & skilled laborers	140	3	32	175	831	121	375	632
tanis	453	78	58	589	725	144	238	417

From the above table it appears that the tani families which own an average of five times as much land as the various wage earner families are taxed about four times as much.

From Table 74, which lists the land tax per hectare, it appears that the quality of the sawahs in West Java, where the sawahs are almost entirely dependent upon rain, is less than those of Central and East Java, especially those near tobacco and sugar plantations where many technically flooded sawahs are encountered. The differences in land tax of tani families among the three provinces is closely dependent upon the average land tax per hectare, which is lower than for the wage earner families, since tani families with lesser quality grounds were encountered near many of the plantations which were investigated.

c. Utilization of the Land

Tables 75 through 78 give a summary of the manner in which the lands of the families were used during the investigation. Here, in first instance, a distinction was made between lands which were exploited by the owner and those exploited by someone else. This latter category was further subdivided into:

1. rented lands,
2. lands let out to sharecroppers, and
3. other forms of land subletting.

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In the following table the area of ground which is exploited by the owner is expressed in percentage of the total land owned.

LAND UTILIZATION

Type of family (Living off the plantation)	Area of land exploited by the owner in % of the total land owned			
	sawah	tegalan	garden-plot	total lands
field laborers	81	98	100	91
factory laborers	67	100	100	83
supervisors and skilled laborers	67	94	100	79
tanis	83	97	100	91

Primarily sawahs are let out to others for exploitation. That this occurs more among factory laborers and supervisors and skilled laborers than among field laborers and tanis is understandable from the nature of their activities which allow the former group less freedom.

At the most it might arouse some surprise that the tanis, despite their agrarian nature, do not exploit about a sixth of their sawahs themselves. For the most part the lands here involved (among other types of families too) are leased to sugar and tobacco plantations. In these instances the rent price, which has been established by the land rent ordinance, is substantially above the usual local rent paid. Next to renting lands, the letting out to share croppers occurred rather frequently in Central Java, while pawning lands was encountered almost solely in the princely lands. Table 79 gives a summary of the ownership rights which were in existence in the various areas where investigations were conducted. For further particulars, the reader is referred to this table.

d. Utilization of the Garden-plots

Tables 80 through 83 give a summary per plantation of the high or top growth (fruit and other trees), its type and its density for the garden-plots. The following table gives a summary of the number of fruit and other trees per garden-plot and per hectare.

.....Table on page 43.

As regards tree growth, the density of planting of the garden-plots varies only slightly among the various types of families. As a result, the number of fruit and other trees of the tani families, which as we have already seen had garden-plots double the size of those of wage earner families, were double the number of those of the other types of families. From Tables 80

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TREE GROWTH ON THE GARDEN-PLOTS

Type of family (living off the plantation)	Number of fruit and other trees	
	per garden-plot	per hectare (1)
field laborers.....	17	123
factory laborers.....	15	108
supervisors and skilled laborers.....	16	132
tanis.....	32	113

(1) The area of the house and other buildings has not been deducted from the size of the garden-plot.

through 83 it appears that the coconut palm (klapper), the soursop tree (nangka), mango tree (mangga), areca palm (pinang), papaya tree, citrus tree (djeruk), and the djambu tree are the most frequently found on the garden-plots. The importance of the coconut palm in this group is shown by the following statistics.

THE IMPORTANCE OF THE COCONUT PALM IN THE TREE GRWOTH OF GARDEN-PLOTS

Province:	Number of fruit and other trees	Number of coconut palm trees	Number of coconut palms in % of the total number of fruit and other trees
West Java	1.317	94	7
Central Java	7.776	3.637	37
East Java	9.354	2.888	31

In West Java, where the number of fruit and other trees per hectare is already the smallest, the coconut palm is of relatively less significance than in East and especially in Central Java, in which latter province moreover the most densely planted garden plots are found. Concerning the further utilization of the garden plot for planting (mid and bottom or low growth), for which no statistics are given in this report because only the type of planting can be recorded, it can be noted that this is also much better cared for in Central Java than in West and East Java.

2. Possession of Livestock

Tables 84 through 87 give a summary of the type and size of livestock holdings per plantation for the families which were in-

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vestigated. In these tables, stock that is loaned out in share crop arrangements is counted, but that which is received in such arrangements is not counted. A summary of the statistics given in the above mentioned tables provides us with the following picture.

POSSESSION OF LIVESTOCK

Type of livestock owned	Average number of heads per family						
	Living on the plantation			Living off the plantation			tanis
	field laborers	factory laborers	superv. & skilled laborers	field laborers	factory laborers	superv. & skilled laborers	
large	0.0	0.1	0.1	0.4	0.3	0.4	1.3
small	0.0	0.1	0.4	0.6	0.5	0.6	1.1
fowl	2.0	1.9	5.4	3.0	2.3	4.5	7.1

From the above table we see that the tani families have more livestock per family than the wage earner families. In this latter group the holdings of large livestock (horses, carabaos and cows) and small livestock (sheep and goats) among families living on the plantation is so insignificant that it may be disregarded. Among wage earners living both on and off the plantation it appears that the number of fowl per family is about twice as large among the supervisors and skilled laborers as among the field and factory laborers. Tables 84 through 87 further indicate that the holdings of large livestock are almost entirely carabaos (West Java) and cows (Central and East Java), while those of small livestock are almost entirely goats, and those of fowl predominantly chickens. Finally we note that the individual plantation statistics on livestock holdings vary greatly.

IV. INCOME AND EXPENDITURES

A. Income and Consumption Expenditures

1. Variability of Income

The incomes of the wage earner families can in first instance be divided into income received in the form of wages for work on the plantation under investigation and income from other sources.

a. Income from Work for the Plantation

The income from wages for labor on plantations which are characterized by the seasonal nature of their work, is not distributed equally over the year. For this reason some plantations were investigated twice (once in the busy and once in the "meager"

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time). Among the workers living on the plantation (of whose labor the plantation wishes to assure itself in any event, and, as will appear later, who are almost entirely dependent on the plantation for their income--therewith two guarantees for a steady job with a regular income) the seasonal variations shall in all probability be less than among the workers who live off the plantation. This latter group often has only very loose ties with the plantation, oftentimes draws much of its income from sources outside the plantation, and often regards its income from the plantation as extra earnings.

b. Other Sources of Income

Insofar as these sources of income are related to agriculture or other forms of enterprise, they could only be judged by the entrepreneurial receipts and expenditures during the period of the investigation. The determination of the value of an enterprise at the beginning and end of the investigation by means of inventories was not done for reasons of time. Also the net incomes from the enterprise would not give a general average for the enterprise because the principal expenditures and receipts may occur at other times.

Only an investigation over the period of a year would be able to supply the needed data. Next to apparently high gains (i.e., through sale of the entire rice harvest) there were, during the period of investigation, also large losses (i.e., through purchase of livestock). Income from other sources (i.e., wages from outside the plantation, payment in kind, gifts, etc.) will mostly show a great variability.

2. Difficulties in Determining the Size of the Income

a. Income from Work for the Plantation

Usually the wages of supervisors, skilled laborers, factory laborers and regular day laborers among the field laborers are administered separately in the account books of the plantation. Determining these incomes, therefore, was no particular problem. Quite otherwise was the case with the wages of workers who worked for the plantation under contractors, because the plantation keeps no individual wage accounts on them. These contractors agree to do a certain piece of work at a price determined in advance. The determined price, which is paid to the contractor, is indeed in the account books of the plantation, but the exact amount which goes to the contractor and to each person working for him cannot be determined with any certainty.

Since the contractors for the most part keep only a very haphazard account ledger and sometimes none at all, the size of the wages could only be determined by comparing the work of the contractor with that of the persons working for him. In practice this procedure ran into grave and sometimes insoluble difficulties. One should keep this in mind when judging the statistics.

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b. Other Sources of Income

The determination of incomes other than those received from work for the plantation also presented numerous difficulties since much reliance had to be placed on interviews. Then there were incomes which were not readily disclosed either out of a sense of shame (i.e., income from gambling) or fear (i.e., income from some illegal source). Moreover, income in natural produce or kind (i.e., from own lands, wages or gifts) had to be evaluated at current market prices or by mutual agreement.

From the above it will apear very evident how difficult it is for an investigator to definitely establish the income of the families. The income of the families living on the plantation which could be checked by the account books will be fairly accurate. A similar accuracy could not be maintained among the families living off the plantation.

3. The Size of the Income

Table 88 shows the size of the income per plantation of the various families which were investigated. A condensation of this gives the following picture.

THE SIZE OF THE INCOME

Province:	Average income per family per month in cents						
	Living on the plantation			Living off the plantation			tanis
	field laborers	factory laborers	superv. & skilled laborers	field laborers	factory laborers	superv. & skilled laborers	
West Java	989	1.164	1.848	739	-	-	970
Central Java	880	1.334	2.121	476	758	1.734	435
East Java	836	1.133	2.476	478	913	1.836	746
JAVA	881	1.158	2.334	523	829	1.798	677

A generally valid conclusion which can be drawn from this table regarding the income of the three types of wage earners and tanis is that the families living on the plantation are somewhat better off than those living off the plantation. One must not attach too absolute a value to these figures since they are in no small measure influenced by chance or circumstances in selecting the representative plantations. For instance, the fact that the West Java families living off the plantation are better off than those of Central and East Java is in no small measure influenced

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by the plantations which were investigated twice. None the less it does appear that the factory laborers who as a group are tied more closely to the plantation (even though they may live off the plantation) clearly have larger incomes than those field workers living off the plantation and who have only loose ties with the plantation.

In viewing the income statistics, one must not lose sight of the type of plantation. Even so, the general tendency shown by the statistics seems to be correct.

4. The Composition of the Income

Tables 89 through 92 divide the income into eight subdivisions and consider the relative importance with regard to the total income of each division. The following general averages were obtained.

THE COMPOSITION OF THE INCOME

Composition of the income	Average income per family per month in cents						
	Living on the plantation			Living off the plantation			tanis
	field laborers	factory laborers	superv. & skilled laborers	field laborers	factory laborers	superv. & skilled laborers	
Wages from the plantation.....	808	1,117	1,849	304	640	1,572	7
Wages from off the plantation.....	11	2	1	34	23	5	42
Agriculture and Gardening (money).....	0	1	125	25	18	- 18	234
Animal husbandry....	- 1	1	45	0	7	7	20
Commercial activities...	- 1	3	31	19	20	16	52
Other minor vocations....	5	1	45	7	24	32	37
miscellaneous (gifts, etc.)	7	3	137	12	11	74	14
Payment in kind.....	51	30	101	122	87	109	271
Total.....	881	1,158	2,334	523	829	1,798	677

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THE COMPOSITION OF THE INCOME (cont.)

Composition of the income	In % of the total income						
	Living on the plantation			Living off the plantation			
	field laborers	factory laborers	superv. & skilled laborers	field laborers	factory laborers	superv. & skilled laborers	tanis
Wages from the plantation.....	91	96	79	58	77	87	1
Wages from off the plantation.....	1	0	0	6	3	0	6
Agriculture and gardening (money).....	0	0	5	5	2	- 1	34
Animal husbandry....	0	0	2	0	1	0	3
Commercial activities...	0	0	1	4	2	1	8
Other minor vocations....	1	0	2	1	3	2	6
Miscellaneous (gifts, etc.)	1	0	6	2	1	4	2
Payment in kind.....	6	3	4	23	10	6	40
Total.....	100	100	100	100	100	100	100

Of the three types of wage earner families living on the plantation, the field and factory laborers were dependent for practically their entire income on the plantation. Except for their income from wages, which accounted for more than 90% of the total, only the income from payments in kind (including wages and gifts in kind which were consummated during the investigation, see Tables 89 through 92 for details), which were almost always derived from plantation lands (primarily wool and products from the garden plot), were of any significance. In the group of supervisors and skilled laborers living on the plantation, however, the wages from the plantation account for only about 80% of the income. From Table 91 it appears that this low average must be attributed to families who were living on the East Java tobacco plantations which had been investigated. During the second investigation of

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these plantations which occurred during the harvest time, these families had very large incomes in the "agriculture" category through the sale of tobacco leaf to the plantation. This tobacco leaf was partly acquired from owned or rented lands which had been let out to acquaintances or family members for exploitation. Furthermore, during the time of the investigation, one of the supervisors' families received a gift of Fl. 120.00 which accounts for about two-thirds of the income of this group from "miscellaneous" sources (i.e., gifts and sale of items not included in earlier classifications). If we exclude these families who profit from these "extras" during the harvest period, then it appears that the supervisors and skilled laborers living on the plantation are also dependent on the plantation for about 90% of their income. It can in general be said, therefore, that the wage earner families living on the plantation are dependent upon the plantation for their income. This also applies in large extent to the supervisors and skilled laborers living off the plantation. However, for the field and factory laborers living off the plantation this is no longer the case. Although even here the wages received from the plantation form the principal source of income (58% of total income among field laborers and 77% among factory laborers), the additional sources of income are not without significance. This is seen most strongly in the timber and sugar enterprises where the earnings from the plantation account for only 42 and 44 percent of the total income respectively. It must also be remembered that investigation tended to concentrate on families which had at least one or more members working for the plantation. Families in which this was not true (i.e., most of the factory laborers' families after the processing period had ended) were eliminated from the investigation beforehand. Therefore, the share of the wage income in the total income for the field and factory laborers living off the plantation will probably be even less than the figures here given indicate. The income from payment in kind also ranks second for the families living off the plantation. It is of relatively more significance, however, (especially among the field laborers) than in the cases of families living on the plantation. With the exception of the income from wages from off the plantation which may sometimes run into sizable amounts in the tea plantation areas, the remaining sources of income (from "agriculture and gardening," "commercial activities," and "other minor vocations" among the field and factory workers, and "miscellaneous" among the supervisors and skilled laborers) are of significance only on the sugar plantations.

From Table 90 it appears that the low incomes of the factory laborers of the sugar plantations which were investigated after the processing period had ended, can be attributed almost entirely to the reduced wage income from the plantation. These reduced incomes are due in large part, as we shall see presently in Chapter V, to a lack of employment opportunity. Therefore at the end of the processing period most of the factory laborers were discharged, while the few remaining worked at half time. To a somewhat lesser degree the same holds true for the skilled laborers out of the group "supervisors and skilled laborers." However, the field supervisors of this group are the ones most likely to work through the entire year, but with fluctuating income.

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Tables 93 through 95 give the size of the wage income in the family. A percentagewise summary of the size is given below.

THE WAGE INCOME IN THE FAMILY

Member(s) of the family	Percentage of the wage income of the family expressed in % of the total wage income of the family					
	Living on the plantation			Living off the plantation		
	field laborers	factory laborers	superv. & skilled laborers	field laborers	factory laborers	superv. & skilled laborers
Male head of family.....	60	71	86	70	86	94
Female head of family or wife of the head of family.....	28	21	8	12	8	0
Children.....	9	6	3	13	2	4
Other members of the family.....	3	3	3	5	3	1
Total	100	100	100	100	100	100

In the above table the percentage of the wage income of the male family head among field laborers living off the plantation is somewhat too high because the composite family labor was included in it (see note at bottom of Table 93). The share of the male head of the family in the total wage income is from 8 to 15% smaller among the families living on the plantation because the wife of the family head has a relatively larger income than among similar types of families living off the plantation. In both types of families the share of the male family head increases sharply as the total family income increases (in the sequence field laborers, factory laborers, and supervisors and skilled laborers). The wage income of the family heads and their wives together accounts for from 80 to 90% of the total wage income among field laborers and from 90 to 95% among factory laborers and supervisors and skilled laborers. The wage income of children forms a fairly important item in the field laborer group.

The chief source of income for the tani families is the land. The income from "agriculture and gardening," "animal husbandry" and "payments in kind," the last of which can be viewed almost entirely as income from land ownership (excluding only the amounts consumed from personal supplies which are maintained from wages in

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kind for harvesting, gifts in natural produce, etc.), form about 75% of the total income among the tani families. In addition the income from "wage services," "commercial activities" and "other minor vocations" (for example, weaving)-the latter two are of relatively more significance in Central and especially East Java than in West Java-must be mentioned. A comparison of the income from owned land (income from "agriculture and gardening" and "payments in kind") of the tani families with the wage earner families living off the plantation shows that there is a close relationship between the size of the owned land, the amount of land tax, and the size of the income from the land. Owning five times as much land and paying four times as much land tax, the tani families' income from land ownership is four to five times as large as that of the three types of wage earner families which were investigated.

5. The Size and Distribution of the Income and Consumption Expenditure

Table 96 gives a comparative appraisal of the size of the income and consumption expenditure (1) of the various types of families on the various plantations which were investigated.

THE SIZE OF THE INCOME AND CONSUMPTION EXPENDITURE

	Per family per month in cents						
	Living on the plantation			Living off the plantation			
	field laborers	factory laborers	superv. & skilled laborers	field laborers	factory laborers	superv. & skilled laborers	tanis
Income	881	1158	2334	523	829	1798	677
Consumption expenditure	883	1048	1697	549	762	1612	666

The income and consumption expenditure among the field laborers and tanis is practically in balance. Among the factory laborers and supervisors and skilled laborers living off the plantation the income is about 10% higher, while among the supervisors and skilled laborers living on the plantation it is about 40% above consumption expenditures. This indicates that saving can only occur in the higher income brackets. The income of the factory laborers living off the plantation is probably on the high side since many more families were investigated on the sugar plantations

(1) The value of the consumption expenditure was established by converting all articles consumed during the period of investigation into money value.

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during the harvesting and processing period--a good period for the factory laborers as previously pointed out, see page 49--than during the other periods. In addition the factory only operated four months out of the year on the sugar plantations which were investigated.

Graphs 11 through 17 compare incomes with consumption expenditures for the families which were investigated. If the income equalled consumption expenditures in all families the graph's line would be straight and starting at the zero point would run at a 45 degree angle to the two axes of the graph. If the income is greater than the consumption expenditure the points will fall above this line, while if the opposite is true they will fall below the line. From the graphs it appears that sometimes the income for certain types of families is larger than expenditures and sometimes it is smaller. Most of the plotted points for the field laborers and tanis fell below the line while most of those of the factory laborers and supervisors and skilled laborers lay above the line. Only in the case of the tani families can conclusions be drawn which are not too apparent from the general averages which resulted in almost as many points laying above as below the line for this group. This resulted from certain tani families having exceptionally high incomes during the period of investigation. All graphs also clearly indicate that among those families whose income is about equal to expenditures, the income and consumption expenditure of a family will often vary remarkably in size.

In addition it is noted that there is no increased urge to save as the income increases. The reasons why the monthly incomes determined by this investigation may vary appreciably from the normal monthly income have already been discussed at the beginning of this chapter. Although not in the same degree, the consumption expenditures will also be subject to fluctuation in the course of the year. The distribution of income and consumption expenditures among the families which were investigated is given in Tables 97 and 98; several percentages have been summarized in the following table.

.....Table on page 53.

In all types of families the distribution of the income is somewhat greater than that of the consumption expenditure. This points to the previously mentioned assumption that the income is more irregularly spread over the year than the consumption expenditure. In an absolute sense, the income and consumption expenditure among the group of supervisors and skilled laborers shows the greatest distribution.

B. The Cash Situation

1. The Significance of the Cash Situation

A summary of the cash situation gives some idea of the money fluctuations during the period of the investigation. As such it rounds out our insight into the manner of life of the families which were investigated. Income and consumption expenditure figures

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THE DISTRIBUTION OF THE INCOME AND CONSUMPTION EXPENDITURES

Division of the income and consumption expenditures into classes (in guilders)	Number of families per class in % of the total number of families						
	I n c o m e						
	Living on the plantation			Living off the plantation			tanis
	field laborers	factory laborers	superv. & skilled laborers	field laborers	factory laborers	superv. & skilled laborers	
<0.....	0	-	-	1	-	-	2
0 - 5.....	11	-	-	52	16	2	50
5 - 10.....	54	41	9	38	60	20	31
10 - 15.....	31	41	16	8	17	29	11
15 - 20.....	4	16	24	1	5	14	3
20 - 25.....	-	1	24	-	3	14	2
>25.....	-	1	27	-	-	20	2
total.....	100	100	100	100	100	100	100
	C o n s u m p t i o n E x p e n d i t u r e						
	Living on the plantation			Living off the plantation			tanis
	field laborers	factory laborers	superv. & skilled laborers	field laborers	factory laborers	superv. & skilled laborers	
<0.....	-	-	-	-	-	-	-
0 - 5.....	6	-	-	47	18	1	37
5 - 10.....	67	50	12	48	66	22	49
10 - 15.....	24	45	33	3	11	38	10
15 - 20.....	2	3	31	1	5	14	3
20 - 25.....	1	2	12	0	1	11	1
>25.....	-	-	13	-	-	15	0
Total.....	100	100	100	100	100	100	100

are not sufficient in themselves. In the first place they give only the net result of enterprises undertaken by the family under investigation during the given period; secondly they make no allowance for debt questions which can be of great significance to the wage earner families who tend to acquire their consumption items on credit. Furthermore the monetary receipts and expenditures form an important control item, even though the cash on hand could not be determined at the beginning of the investigation. In general

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it takes several days before the families to be investigated lose their suspicion toward the investigator who visits them daily. If one should begin by asking about the money they have on hand it would raise thoughts of fiscal control and would have an insalubrious influence upon the investigation. The advantage that would accrue from knowing the amount of these cash reserves, which are usually trivial, would not be commensurate with the disadvantage which would result from inquiry into this matter. Suffice it to say that from the fact that many families spent money before they received any during the period of investigation and quite often spent more than they received, it must be concluded that as a general rule some money is kept in the home.

2. The Monetary Receipts

In Tables 99 through 102 the monetary receipts are divided into seven categories. The relative importance of each category in the total monetary receipts was considered. A summary of the general averages follows.

COMPOSITION OF THE MONETARY RECEIPTS

Composition of the monetary receipts	Average monetary receipts per family per month in cents						
	Living on the plantation			Living off the plantation			tanis
	field laborers	factory laborers	superv. & skilled laborers	field laborers	factory laborers	superv. & skilled laborers	
Wages from the plantation.....	814	1117	1854	306	640	1572	7
Wages from off the plantation.....	11	2	1	34	23	5	42
Agriculture and gardening (money).....	2	1	287	46	35	18	279
Animal husbandry....	1	2	82	11	9	29	43
Commercial activities...	3	18	32	39	99	50	109
Other minor vocations....	5	1	45	9	34	33	41
Miscellaneous	46	26	335	64	81	295	89
Total.....	882	1168	2636	509	922	2003	610

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COMPOSITION OF THE MONETARY RECEIPTS (cont.)

Composition of the monetary receipts	In % of the total monetary receipts						
	Living on the plantation			Living off the plantation			tanis
	field laborers	factory laborers	superv. & skilled laborers	field laborers	factory laborers	superv. & skilled laborers	
Wages from the plantation.....	92	96	70	60	69	79	1
Wages from off the plantation.....	1	0	0	7	2	0	7
Agriculture and gardening (money).....	0	0	11	9	4	1	46
Animal husbandry....	0	0	3	2	1	1	7
Commercial activities...	0	2	1	8	11	2	18
Other minor vocations....	1	0	2	2	4	2	7
Miscellaneous	5	2	13	13	9	15	15
Total.....	100	100	100	100	100	100	100

As a rule the plantation is the great source of money for the wage earner families living on as well as off the plantation. For certain types of plantations (timber and sugar) this is not true. It must be noted here that withholdings of part of the wages in repayment of advances (rice, etc.) made in interim periods have not been deducted from the wages here, but were listed as debt amortization under the monetary expenditures. The fact that the wages received are slightly higher in certain groups than the income from wages is due to the fact that the income from wages has been reduced for those groups by the amount they spend for assistants (among tappers and skilled laborers) and tools (tapping knives, picking cloths, etc.) which form an essential part of their work for the plantation. Of the remaining sources of monetary receipts those of a miscellaneous nature must be mentioned first. This item consists mostly of loans which except in the case of the supervisors and skilled laborers is of greater importance for the families living off the plantation than those living on it. Mention has already been made on page 49 of the sizable receipts of the supervisors and skilled laborers living on the plantation from

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"agriculture and gardening." Further the receipts of the field laborers living off the plantation for "wages from off the plantation," "agriculture and gardening" and "commercial activities," and of the factory laborers living off the plantation for "commercial activities," each account for more than 5% of the total monetary receipts. The receipts from commercial activity given here are too low because only the net gain could be determined since the families did not remember the net receipts and net expenditures. Among the tani families over half the receipts are derived from the land. Next to that chiefly the receipts from "commercial activities" and "miscellaneous" are of importance.

3. The Monetary Expenditures

In Tables 103 through 106 the monetary expenditures are divided into seven categories. The relative importance of each category in the total monetary expenditures was considered. A summary of the general averages follows.

COMPOSITION OF THE MONETARY EXPENDITURES

Composition of the monetary expenditures	Average monetary expenditures per family per month in cents						
	Living on the plantation			Living off the plantation			tanis
	field laborers	factory laborers	superv. & skilled laborers	field laborers	factory laborers	superv. & skilled laborers	
Consumption..	267	378	910	215	319	909	341
Debt amortization.	538	664	1005	184	343	759	65
Agriculture and gardening	2	1	162	21	17	36	40
Animal husbandry....	2	1	38	5	1	17	4
Commercial activities...	4	15	1	20	79	33	57
Other minor vocations....	-	-	1	2	10	2	4
Miscellaneous	7	7	103	13	2	6	1
Total.....	820	1066	2220	450	772	1762	510

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COMPOSITION OF THE MONETARY EXPENDITURES (cont.)

Composition of the monetary expenditures	In % of the total monetary expenditures						
	Living on the plantation			Living off the plantation			
	field laborers	factory laborers	superv.& skilled laborers	field laborers	factory laborers	superv.& skilled laborers	tanis
Consumption..	33	35	41	48	41	52	67
Debt amortization.	66	62	45	41	45	43	13
Agriculture and gardening	0	0	7	5	2	2	8
Animal husbandry....	0	0	2	1	0	1	1
Commercial activities...	0	1	0	4	10	2	11
Other minor vocations....	-	-	0	0	1	0	1
Miscellaneous	1	1	5	1	0	0	0
Total.....	100	100	100	100	100	100	100

The expenditures for consumption and debt amortization together form more than 85% of the total expenditures for all six groups of wage earner families which were investigated. While the expenditures for debt amortization are of greater importance than consumption among the families living on the plantation (especially the field and factory laborers), the consumption expenditures are usually somewhat larger among the wage earner families living off the plantation. Over and above expenditures for "consumption" and "debt amortization," only the group of supervisors and skilled laborers living on the plantation had expenditures of any note; namely for "agriculture and gardening" (this was primarily due to the family previously mentioned which received a gift of Fl. 120 and bought a house with a piece of land for Fl. 150) and "miscellaneous" (due principally to the theft of Fl. 116.25 from a secretary of one of the timber reserves).

Of the monetary expenditures of the wage earner families living off the plantation those of field laborers for "agriculture and gardening" and "commercial activities" and those of the factory laborers for "commercial activities" should be mentioned. Expenditures for "consumption" and "debt amortization" together account for 80% of the total expenditures among tanis. Here the expenditures

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for "consumption" are about five times as large as those for "debt amortization." In addition, only the expenditures for "agriculture and gardening" and "commercial activity" are of significance for this group. From Tables 103 through 106 it further appears that "debt amortization" (therefore in all probability also lending activity) plays a relatively much greater role in West Java than in Central and East Java.

4. The Size of the Monetary Variance

Table 107 gives a comparative summary of the size of the monetary receipts and monetary expenditures of the various types of families which were investigated. A summary of the general averages follows.

THE SIZE OF THE MONETARY VARIANCE

	Per family per month in cents						
	Living on the plantation			Living off the plantation			
	field laborers	factory laborers	superv.& skilled laborers	field laborers	factory laborers	superv.& skilled laborers	tanis
Monetary receipts.....	882	1168	2636	509	922	2003	610
Monetary expenditures.	820	1066	2220	450	772	1980	510

In a manner similar to what was done with the income and consumption expenditures, the monetary receipts and expenditures were plotted on graphs (Graphs 18 through 24). These graphs show that among the tanis receipts and expenditures are balanced. The larger monetary receipts are almost entirely the result of the abnormally high monetary receipts of a few families (the same ones as in the case of income; due mainly to sale of harvested rice, soya beans or tobacco, sale of large livestock, and a few instances of very high receipts from commercial activities). In the groups of investigated wage earner families the monetary receipts are mostly (for 60 to 80%) somewhat larger than the monetary expenditures. The plotted points of the monetary receipts and expenditures form a wide band which runs parallel to and mostly above the line drawn at a 45 degree angle from the zero point of the two axes of the graph. Even the statistics for the individual plantations which usually show somewhat larger monetary receipts for the wage earner families point to the same result. An indication that the amounts for debt amortization and loans was not always given accurately is shown by the fact that both were smaller during the period of investigation than for those listed as recently acquired. Finally, just as in the case of the income and consumption expenditures, the distribution of the monetary receipts and expenditures was plotted (Tables 108 and 109), a summary of which follows.

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DISTRIBUTION OF MONETARY RECEIPTS AND EXPENDITURES

Division of the monetary receipts and monetary expenditures into classes (in guilders)	Number of families per class in % of the total number of families						
	Monetary receipts						
	Living on the plantation			Living off the plantation			tanis
	field laborers	factory laborers	superv.& skilled laborers	field laborers	factory laborers	superv. & skilled laborers	
0 - 5	16	-	-	61	16	2	63
5 - 10	50	40	9	28	59	15	22
10 - 15	27	39	18	8	15	25	7
15 - 20	7	19	19	2	8	20	3
20 - 25	0	1	22	0	3	11	1
over 25	0	1	32	0	-	27	3
total.....	100	100	100	100	100	100	100
	Monetary expenditures						
0 - 5	19	4	1	67	24	6	67
5 - 10	52	48	16	25	60	18	23
10 - 15	24	33	23	6	9	28	6
15 - 20	3	13	22	1	4	18	2
20 - 25	1	1	12	0	1	11	0
over 25	-	1	26	-	1	20	2
total.....	100	100	100	100	100	100	100

There is a great distribution of monetary receipts and expenditures in all types of families. The distribution is greatest in an absolute sense among the supervisors and skilled laborers.

5. The Changes in the Financial Position

Tables 110 through 113 give a summary for each plantation of the financial alterations which occurred in the investigated families during the period of the investigation. A summary of the general averages gives the following picture.

.....Table on page 60.

Increase or decrease of debt was figured by subtracting the amounts spent for debt amortization and granted in loans from amounts for (a) articles bought on credit, (b) newly contracted debts by borrowing and (c) payments received on outstanding loans. As already pointed out in the preceding paragraph, the cash on hand at the end of the investigation was larger for each family

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THE CHANGES IN THE FINANCIAL POSITION

Place of domicile	Type of family	Average per family during the period of investigation in cents					
		cash on hand		debts		total	
		increase	decrease	increase	decrease	improvement	decline
Living on the plantation							
	field laborers	61	-	65	-	-	4
	factory laborers	102	-	-	3	105	-
	superv.& skilled laborers	415	-	-	170	585	-
Living off the plantation							
	field laborers	59	-	93	-	-	34
	factory laborers	150	-	94	-	56	-
	superv.& skilled laborers	241	-	102	-	139	-
	tanis	100	-	54	-	46	-

than at the beginning of the investigation. This is countered, however, by the conclusions which can be drawn from the above table; namely that the debts increased during the same period. As a result the financial position of both groups of field laborer families was worse and that of the remaining family groups was better at the end than at the beginning of the investigation. Tables 110 through 113 show that the financial improvement was of significance only among both groups of supervisors and skilled laborers and among the factory laborers living on the plantation. Among the remaining types of families the percentage of plantations on which their financial position improved or declined is between 40 and 60 respectively.

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V. WORK AND WAGES

A. The Work on the Plantation

1. The Importance of the Number of Work Days and Work Hours

The number of days and hours that the laborers work on the plantation within a given period is of significance in numerous respects:

1. from a social point of view,
2. for the degree of dependence upon the plantation (partly in view of the time available for work elsewhere),
3. for figuring daily and hourly earnings,
4. for judging the food consumption data.

In addition it is the weight of the work which demands our particular attention. The weight of the work is determined by:

a. duration of the work,
b. type of work,
c. speed at which work is done,
d. working conditions.

In so far as the work on the plantation is concerned, a sufficiency of accurate enough data can be obtained for the duration of work and type of work of the plantation laborers. This was not always possible for work done off the plantation, especially as concerns work done within the home for which the length of time could often not be given. Due to the inadequacy of the data obtained about work off the plantation this subject had to be removed from consideration. There was no time for holding a detailed investigation for converting piece work into time work. Regarding the speed at which work is done both on and off the plantation, as much data as possible were assembled about the size of the work tasks (i.e., the number of rubber trees that can be tapped within a given time), so that by dividing the wages for a given piece of work by the earnings some insight into this matter might be obtained. Actually it was not possible to determine the expenditure of energy in an exact manner, because the manner of work (i.e., carelessly or not carelessly) and circumstances of work (i.e., amount of experience, nature of the ground and terrain, weather, etc.) were not known. For the same reason it was not possible to determine with exactitude the relation between work and nutrition which is so important for determining nutritional standards.

2. The Size of the Number of Work Days and Work Hours

a. Work within the Family

Tables 114 through 122 investigate the work of the members of the family on the plantation. A summary of the general averages of this is given below.

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WORK WITHIN THE FAMILY

Members of the family	Living on the plantation			Living off the plantation		
	field labor-ers	fac-tory labor-ers	superv.& skilled labor-ers	field labor-ers	fac-tory labor-ers	superv.& skilled labor-ers
Average number of work days per family per month						
Male head of family	24	26	26	15	22	26
Female head of family or wife of head of family.....	15	16	6	4	2	0
Children.....	7	4	4	5	1	4
Other family members.....	2	2	4	2	1	1
Total.....	48	48	40	26	26	31
Average number of work hours per family per month						
Male head of family	205	265	282	114	243	281
Female head of family or wife of head of family.....	123	149	58	33	30	1
Children.....	55	34	35	47	14	49
Other family members.....	16	15	47	13	14	11
Total.....	399	463	422	207	301	342
Average number of hours worked for each day of work						
Male head of family	9	10	11	8	11	11
Female head of family or wife of head of family.....	8	9	9	7	11	6
Children.....	8	9	9	8	10	11
Other family members.....	9	9	11	8	10	10
Total.....	8	10	10	8	11	11

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From the above figures it seems that the members of the wage earner families who are living on the plantation appear more often as laborers on the plantation (field and factory laborers almost 50, supervisors and skilled laborers almost 40 days per family per month) than do the members of the wage earner families living off the plantation (average of 25 to 30 days per family per month). Since the field laborer families spent less time each day working for the plantation (average of 8 hours per day) than did the factory laborers, supervisors and skilled laborers, the total working time per family during the period of investigation was less for the first mentioned family group (especially for those living off the plantation) than for the others. It is further to be noted that the relative importance of the work time of the male head of the family within the total work time for the family is smaller (51 to 67%) for families living on the plantation than for those living off the plantation (55 to 82%). His share increases in the various types of families in the following sequence: field laborers, factory laborers, and supervisors and skilled laborers. In both instances these differences may be in large measure attributed to the differences in work time for the wife of the head of the family. Tables 114 through 122 show that the hours of work on the West Java plantations are less than in Central and East Java.

b. The Work of the Men and Women within the Laboring Age

In order to gain an insight into the level of the daily and hourly earnings it will be necessary in the first place to investigate the wages of those persons who both mentally and physically can be regarded as mature laborers. As pointed out on page 16, the years from 16 through 60 were adopted as the laboring age. Table 123 contains the average number of work days and hours per person during the period of investigation for the men and women of this group. The general averages obtained are given below.

THE WORK OF THE MEN AND WOMEN WITHIN THE LABORING AGE

	Average number of work days per person per month					
	Living on the plantation			Living off the plantation		
	field laborers	factory laborers	superv.& skilled laborers	field laborers	factory laborers	superv.& skilled laborers
men.....	25	26	27	19	24	26
women.....	23	23	22	20	23	25 a)

a) This figure refers to only one person.

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THE WORK WITHIN THE FAMILY (cont.)

	Average number of work hours per person per month					
	Living on the plantation			Living off the plantation		
	field laborers	factory laborers	superv.& skilled laborers	field laborers	factory laborers	superv.& skilled laborers
men.....	213	260	287	146	277	278
women.....	185	212	197	147	236	150 a)
	Average number of work hours per person per day					
	Living on the plantation			Living off the plantation		
	field laborers	factory laborers	superv.& skilled laborers	field laborers	factory laborers	superv.& skilled laborers
men.....	8.6	10.0	10.8	7.6	11.5	10.7
women.....	8.0	9.1	9.0	7.2	10.3	6.0 a)

a) This figure refers to only one person.

The above figures have reference only to the wage earners of the 16 to 60 year age group who are considered in good working condition; this means about 80% of the men and 30% of the women of the total age group. Moreover, persons who worked in a family group or for whom there were no exact statistics are not included (see note at the end of Table 123). With the exception of the male wage earners from the group of field laborers living both on and off the plantation, the male wage earners living both on and off the plantation work for the plantation on about 85% of the available days. For the female wage earners this figure runs about 70%. The lower percentage (about 60) for the field laborers living off the plantation is entirely due to the Central and East Javanese rubber, sugar, and timber enterprises which were investigated. In all other instances the labor intensity of the male wage earners, in so far as it concerns the results of the work, must be called high. Actually this amounts to one free day per week, but then no account has been taken of forced days of rest because of illness or for other reasons.

From the above table we can also see that the average number of working hours per working day is less for the field laborers than for the factory laborers, supervisors and skilled laborers. Also men work somewhat longer than women at the same type of work. From the individual plantation statistics (the general averages say nothing on this matter) it cannot be determined whether the wage earners living on the plantation work any longer than those who come from outside the plantation. It can be mentioned here that the

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work times which have been established for day laborers (koelie hari) are usually longer than the times which piece laborers are accustomed to work. Finally Table 123 also shows us that the few factory laborers who are employed on the sugar plantations in off season cannot find enough work there.

A division of the men and women in good working condition into various age categories in order to determine the influence of age upon the size of the daily and hourly earnings was not done because with regard to the separate plantation the numbers were not large enough (there were oftentimes only individual persons doing the same type of work) and with regard to the general averages the differences between wages and other matters among the plantations would have proved too confusing.

c. The Work Involved in Some of the Leading Tasks

In view of the possibility of making comparisons with the wage statistics concerning certain categories of laborers in the most important types of plantations on Java which have been assembled since October 1936, the work involved in various of the leading tasks was investigated. Tables 124 through 132 give the results of this investigation. A summary of the percentile significance of these tasks within the total amount of labor is given in the following table.

.....Table on page 66

Indeed the above figures give no indication of the actual importance of the selected tasks in the total amount of labor on the plantations. Therefore in the choice of families to be investigated more account had to be taken of the differences in occupation than of the number of persons belonging to each occupational category. The percentages for harvesting and tapping are too high because these tasks were specifically included in the investigation. On the other hand the preparation is of more importance among the factory tasks than the above chart would indicate. From the above we can also see that the men and women working on plantations are often involved in more than one task. For instance on the tea plantations which were investigated, only women did the picking while other tasks such as trimming, grafting, and trench digging were only done by men. In the factory women are encountered only at the sorting task while men do the preparation and other factory tasks. Naturally the division of the work to be done is determined by adaptability, physical capacity, economic factors (female labor is often cheaper) and other factors (i.e., does the labor reserve of a particular plantation have an influence on the division of the available workers?).

Tables 124 through 142 also take account of the age of the workers engaged in the various tasks. A summary of this is given in the table on page 67.

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THE IMPORTANCE OF THE WORK INVOLVED IN SOME OF THE LEADING TASKS

Type of plantation		Number of working hours spent on the task listed below in % of the total number of working hours within each particular labor category and within the 16-61 year age group.						
		field tasks						
		harvesting	trimming	grafting	tapping	trench digging	other field tasks	total
men	tea	-	11	-	-	-	89	100
	coffee	44	12	-	-	-	44	100
	rubber	-	-	9	54	-	37	100
	tobacco	-	-	-	-	-	100	100
	sugar	-	-	-	-	23	77	100
	timber	-	-	-	-	-	100	100
women	tea	84	-	-	-	-	16	100
	coffee	93	-	-	-	-	7	100
	rubber	-	-	-	61	-	39	100
	tobacco	-	-	-	-	-	100	100
	sugar	-	-	-	-	-	100	100
	timber	-	-	-	-	-	100	100

		factory tasks				supervisors' and skilled laborers' tasks		
		preparation	sorting	other factory tasks	total	supervisors' tasks	skilled laborers' tasks	total
men	tea	-	-	100	100	48	52	100
	coffee	39	3	59	100	67	33	100
	rubber	28	-	72	100	72	28	100
	tobacco	-	0	100	100	100	-	100
	sugar	29	-	71	100	35	65	100
	timber	-	-	100	100	87	13	100
women	tea	3	90	7	100	100	-	100
	coffee	2	96	2	100	100	-	100
	rubber	9	23	68	100	-	-	-
	tobacco	-	50	50	100	100	-	100
	sugar	67	-	33	100	-	-	-
	timber	-	-	-	-	-	-	-

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THE WORK AT VARIOUS AGES

Age	Number of hours of work in the age groups listed below in % of the total number of hours of work.					
	field tasks		factory tasks		supervisory and skilled labor tasks	
	men	women	men	women	men	women
under 12	4	8	1	1	0	-
12 - 16	6	9	1	9	0	-
16 - 61	89	83	98	89	99	100
above 60	0	-	-	-	-	-

From the above table it appears that child labor (below 12 years) is practically limited to field tasks. Children are mostly used to assist in the harvesting (coffee), tapping, weeding, and combating sicknesses and plagues. Adolescent labor (12 - 16 years) is also of some significance in factory tasks, especially as concerns women. In general it seems that there are more young people among the female workers than among the male. Finally it can be seen that workers above sixty years of age occur very rarely on the plantation.

B. The Wages from the Plantation

1. The Importance of the Daily and Hourly Earnings

In the preceding chapter something has already been said about the importance of the wage earnings from the plantation within the entire income. The size of the wage income within the family was considered there. Wages from the plantation are considered to be the amount which has been received from the plantation during the time of investigation, minus the income tax and the so-called professional expenses; these are wages to assistants (especially in tapping), tapping knives, hones, picking cloths, etc., all things which are necessary for the wage earner to conduct his calling.

Sometimes the plantation withheld the income tax from the wages and sometimes it did not. For purposes of comparison, the income tax has been deducted from all wages given here. From the total wage attained in this manner the daily and hourly earnings were figured by dividing by the number of days and hours respectively that was worked during the period of investigation. The number of days that each worker turned out on the plantation was a known quantity. The number of hours worked could be easily determined for those laborers hired on an hourly basis. But the number of hours worked by the persons on piece work could only be determined by counting (in addition to personally asking the worker, the assistance of the supervisors involved was also used) and questioning.

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In order to determine the level of the wages it was necessary to figure both the daily and hourly earnings since as we have seen above the number of hours worked per day may vary markedly on one plantation. Although in general the work capacity per hour will decline in direct proportion to the number of hours worked, it can with much certainty be accepted that the hourly earnings form a better basis for comparison than the daily earnings. It must therefore also be regarded as desirable that work analyses are made for various tasks which will eventually be able to give a deeper insight into this material.

2. The Size of the Daily and Hourly Earnings

a. The Daily and Hourly Earnings of the Men and Women within the Laboring Age

Table 133 gives a summary of the average daily and hourly earnings of men and women from 16 to 60 years in the wage earner families which were investigated. A listing of the general averages is given below.

THE DAILY AND HOURLY EARNINGS OF THE MEN AND WOMEN WITHIN THE LABORING AGE

Province:	Average daily earnings per person in cents					
	Living on plantation			Living off plantation		
	field laborers	factory laborers	superv.& skilled laborers	field laborers	factory laborers	superv.& skilled laborers
Men						
West Java.....	21	31	49	19	-	-
Central Java.....	21	34	69	9	20	47
East Java.....	20	29	55	12	30	58
JAVA.....	20	30	54	13	24	53
Women						
West Java.....	16	15	16	14	-	-
Central Java.....	15	20	37	8	16	10 a)
East Java.....	14	14	22	7	21	-
JAVA	15	15	21	10	18	10 a)

a) This figure refers to only one person.

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THE DAILY AND HOURLY EARNINGS OF THE MEN AND WOMEN WITHIN THE LABORING AGE (cont.)

Province:	Average hourly earning per person in cents					
	Living on plantation			Living off plantation		
	field laborers	factory laborers	superv.& skilled laborers	field laborers	factory laborers	superv.& skilled laborers
Men						
West Java.....	3.3	3.3	5.5	2.9	-	-
Central Java.....	2.2	3.3	7.0	1.2	1.8	4.5
East Java.....	2.1	2.8	4.8	1.5	2.4	4.7
JAVA.....	2.3	3.0	5.1	1.7	2.0	4.6
Women						
West Java.....	2.5	1.9	2.3	2.1	-	-
Central Java.....	1.6	2.0	3.7	1.1	1.6	1.7 a)
East Java.....	1.6	1.4	2.2	0.9	1.9	-
JAVA.....	1.8	1.5	2.3	1.3	1.8	1.7 a)

a) This figure refers to only one person.

From the above table it appears that the average daily and hourly earnings of the wage earners living on the plantation, especially in Central and East Java are higher than those of the wage earners living off the plantation. This is a consequence of the low earnings on those plantations in these provinces which work exculsively with personnel living off the plantation. In those instances where personnel were also housed in plantation living areas, the earnings of working personnel from off the plantation seemed to be immediately higher. The differences in hourly earnings between wage earners living on and off the plantation, in so far as they belong to the same group and are employed by the same plantation, are a consequence of the type of work and the work ability, and are not to be ascribed to wage politics.

The table also shows that among the lowest paid group of wage earners--the field laborers--the men earned almost 1.5 times as much per day and per hour as the women. This is true for groups living both on and off the plantation. In the higher paid groups--

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the factory laborers, supervisors and skilled laborers--this difference is relatively much larger. As a rule the wages of women who work in the factories are only slightly or not at all higher than those who work in the fields, and the groups of female supervisors (female skilled laborers were not encountered on the plantations which were investigated) is quantitatively insignificant. Among the men the average daily and hourly earnings of the factory laborers are about 1.5 times as high as those of the field laborers, and those of the supervisors and skilled laborers two to four times as high as the field laborers.

The circumstance that the plantations situated in the more thinly populated districts (i.e., the tea and coffee plantations) had to make arrangements for housing and feeding, and at the same time had to pay higher wages (about twice as high) in order to maintain a fixed nucleus of working personnel, brings up the question of the degree to which supply and demand and physical working ability lay at the root of this.

It cannot as yet be determined in how far the physical working ability had any correlation with the level of the wages, for there are too many differential factors which influence this. The specific tasks associated with each type of plantation as well as the conditions under which the work is conducted (terrain, climate, etc.) play a significant part in this, so that it is difficult to make comparisons. An investigation into the size of the working ability and into the factors which influence it is therefore a vital necessity for the future.

The lower wages on the plantations with a large labor supply might also be the result of a somewhat lesser physical ability. This for example seems to be the case in the sugar factory on the north coast of Central Java where weakening of the body due to malnutrition or sickness has been noted. Actually, however, the fact that the best field laborers in the most densely populated districts do not as a rule reach the level of the average wage which is paid to the same type of worker on the remote plantations, points to supply and demand having a great influence on the wage level.

Finally it is to be noted that the average daily earnings vary little among the three provinces; the average hourly earnings are somewhat higher in West Java than in Central and East Java.

b. The Daily and Hourly Earnings for Some of the Leading Tasks

In Tables 134 through 142 the size of the daily and hourly earnings has been considered for some of the leading tasks. A summary follows in the table below.

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THE DAILY AND HOURLY EARNINGS FOR SOME OF THE LEADING TASKS

Type of plantation	Average daily earning per person in cents for the tasks listed below (age group 16 to 61 years)														
	field tasks							factory tasks					superv.& skilled tasks		
	harvesting	trimming	grafting	tapping	trench digging	other fieldwork	average	preparation	sorting	other factory work	average		supervision.	skilled	average
Men															
tea	-	19	-	-	-	19	9	-	-	32	32		56	53	55
coffee	23	17	-	-	-	19	21	25	30	34	31		47	82	58
rubber	-	-	26	20	-	12	17	27	-	26	26		44	44	44
tobacco	-	-	-	-	-	23	23	-	10	18	18		64	-	64
sugar	-	-	-	-	8	8	8	27	-	24	25		44	59	54
timber	-	-	-	-	-	13	13	-	-	34	34		54	78	62
Women															
tea	15	-	-	-	-	13	14	8	13	22	14		14	-	14
coffee	17	-	-	-	-	14	17	15	13	14	13		32	-	32
rubber	-	-	-	17	-	8	13	17	18	14	15		-	-	-
tobacco	-	-	-	-	-	8	8	-	6	15	9		19	-	19
sugar	-	-	-	-	-	6	6	24	-	20	22		-	-	-

.....Remainder of table on page 72.

From the above table as well as from the individual plantation statistics it appears that the earnings for field tasks recorded since October 1936 (harvesting of tea and coffee, tapping of rubber, and trench digging on the sugar plantations) are somewhat above the usual level of field laborer earnings.

From these statistics it can be deduced that the tea, coffee, and rubber plantations which were investigated by the Coolie Budget Commission belong to the better-paid group of such plantations.

Finally the following table gives a brief summary of the daily and hourly earnings for the various age groups (for a more detailed insight one is referred to Tables 134 through 142).

.....Table on page 72.

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THE DAILY AND HOURLY EARNINGS FOR SOME OF THE LEADING TASKS (cont.)

Type of plantation	Average hourly earning per person in cents for the tasks listed below (age group 16 to 61 years)													
	field tasks							factory tasks				superv.& skilled tasks		
	harvesting	trimming	grafting	tapping	trenching	digging	oft tiashes elkrds	average	preparation	sorting	oft taahcs etkros ry	average	superv.	skilled	average
Men														
tea	-	2.8	-	-	-		2.9	2.9	-	-	3.3	3.3	6.6	5.5	6.0
coffee	2.4	1.5	-	-	-		1.9	2.0	2.3	2.7	3.1	2.8	4.6	7.1	5.4
rubber	-	-	2.7	2.7	-		1.6	2.3	2.7	-	2.7	2.7	4.6	4.5	4.6
tobacco	-	-	-	-	-		2.0	2.0	-	1.1	1.6	1.6	5.2	-	5.2
sugar	-	-	-	-	1.2		1.1	1.1	2.2	-	2.1	2.1	4.0	5.3	4.9
timber	-	-	-	-	-		1.5	1.5	-	-	a)	a)	5.7	5.4	5.7
Women														
tea	2.2	-	-	-	-		2.1	2.2	1.2	1.7	2.3	1.7	2.9	-	2.9
coffee	1.7	-	-	-	-		1.5	1.7	1.6	1.3	1.4	1.3	3.2	-	3.2
rubber	-	-	-	2.3	-		1.1	1.8	1.7	1.8	1.5	1.6	-	-	-
tobacco	-	-	-	-	-		0.9	0.9	-	1.0	1.6	1.3	2.0	-	2.0
sugar	-	-	-	-	-		0.7	0.7	2.1	-	1.6	1.9	-	-	-

a) Number of work hours not recorded.

THE DAILY AND HOURLY EARNINGS AT VARIOUS AGES

Age	Average daily earning per person in cents						Average hourly earning per person in cents					
	field tasks		fac. tasks		sup.& sk.t.		field tasks		fac. tasks		sup.& sk.t.	
	men	wo-men	men	wo-men	men	wo-men	men	wo-men	men	wo-men	men	wo-men
0-12	7	6	6	4	17	-	0.9	0.7	1.0	0.8	1.9	-
12-16	9	7	12	12	13	-	1.1	0.8	1.4	1.2	1.5	-
16-61	16	13	27	14	56	29	2.0	1.7	2.4	1.5	5.1	3.1
over 60	31a)	-	-	-	-	-	3.9a)	-	-	-	-	-

a) This figure refers to only one person who worked only seven days on the plantation during the period of investigation.

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From the above table it appears that the average daily and hourly earnings of adolescents and especially of children are significantly lower than those of the men and women in good working condition. In both of the former groups the wages for the various tasks do not vary as much as among the latter group. By the very nature of things children and adolescents can as a rule only do light tasks.

VI. CONSUMPTION

A. Consumption Expenditures

1. The Meaning of Consumption Expenditures

A basis for consumption expenditures was the monetary value of all consumption articles which were used during the period of the investigation. The total amount of this gives the monetary equivalent of the cost of living and thus forms a guide for the real standard of living during the period of investigation. The monetary value of those consumption articles which were bought for cash or for credit is, of course, established. This is not the case for goods received in kind (products of owned land, wages or gifts in kind, etc.). In these cases the price has to be established either in consultation with the party concerned or on the basis of the prevailing market price.

2. The Grouping of Consumption Expenditures

The consumption expenditures were in first instance divided into six groups, to wit.:

I. Food
II. Fire, illumination and water
III. Clothing
IV. Housing
V. Luxury items
VI. Miscellaneous

These six groups are subdivided in accordance with a classification created by the Central Statistical Office in consultation with the Peoples' Nutritional Institute and approved by the Coolie Budget Commission in its meeting of August 29, 1939 (see Table I43). To enhance the value of the investigation it is naturally of much importance that the results of the Coolie Budget Investigation can be compared with those of other investigations. Therefore in establishing the groupings for consumption expenditures maximum account was taken of previously conducted investigations.

3. Comparison of Consumption Expenditures

In order to determine differences in living standards between the various family groups and families during the period of investigation, the various consumption expenditure figures will have to be compared with each other. Incomes are less suited to this pur-

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pose because they are in general less evenly distributed over the year. The data for the Coolie Budget Investigation have been assembled by consumption units; that is to say, per family. They have therefore been broken down into figures per family per month. In order to solve partially the problem of the various family sizes the consumption has also been figured in terms of per person per day. This has been obtained by dividing the total consumption by the sum total of the number of days that each individual has shared in the consumption (= total number of day-persons). Thus the consumption per "day-person" will vary slightly from the consumption per family member per day,

$$\left(= \frac{\text{Total}}{\text{total number of family members} \times \text{length of investigation in days}}\right),$$

since in the latter instance members of the family who are absent (i.e., children in school) will be counted, while guests, on the other hand, will not be. For certain types of consumption articles (i.e., those belonging to the "clothing," "housing," and "miscellaneous" groups) the second method offers advantages since the expenditures for this purpose benefit the absent children but not the guests. A disadvantage of the figures per person per day is that each individual, regardless of position in the family (sex, age, weight, amount of activity, etc.), receives full value. Since it was not possible to determine the breakdown of the consumption within the family, it is necessary to continually refer to both the figures per family per month and to those per person per day, since the truth is most nearly approached at one time by figuring the consumption per family per month (housing, illumination, etc.) and at another time by taking that of a person per day (food, etc.). A summary of the average number of day-persons per family per day for the family groups which were investigated on the various plantations is given in Table 144. The general averages from this table are compared with the average family size in the following table.

THE AVERAGE NUMBER OF DAY-PERSONS PER FAMILY PER DAY AND THE AVERAGE FAMILY SIZE

	Living on plantation			Living off plantation			Tanis
	field laborers	factory laborers	superv. & skilled laborers	field laborers	factory laborers	superv. & skilled laborers	
Average number of day-persons per family per day.....	3.67	4.09	4.52	4.76	5.02	5.64	5.22
Average family size.....	3.70	4.07	4.52	4.85	5.02	5.50	5.26

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From the above table it appears that the differences between the average number of day-persons per family per day and the average family size are small for the families which were investigated. This is also the case with the statistics from the individual plantations. Since there are no data about the age, height and weight of the guests, it was not possible to determine if the composition of persons partaking of the consumption during the period of investigation differed greatly from the composition of the members of the families which were investigated. Since this is unlikely and any error that would result would be slight, the following judgements of the consumption figures will be based on the composition of the family with its members and not on that of the day-persons.

In an investigation into the differences in prosperity and living conditions between the various families which were investigated, the following comparisons among others can be made:

1. comparisons between consumption expenditures of the various types of workers and tanis which were investigated;
2. comparisons between families with different degrees of prosperity but belonging to one worker group type;
3. comparisons of consumption expenditures of families of approximately equal prosperity which belong to different worker groups.

In this volume only the first named comparison will be discussed.

4. Consumption Expenditures Subdivided According to the Manner in which the Consumption Articles Were Acquired

Tables 146 through 149 consider whether consumption articles used during the period of investigation were purchased for cash, obtained on credit, or received in kind for the investigated family groups on the individual plantations. A summary of this follows.

THE MANNER IN WHICH CONSUMPTION ARTICLES WERE ACQUIRED

Manner of acquisition	The expenditures for the consumption articles acquired in the manner listed below in % of the total consumption expenditures.						
	Living on plantation			Living off plantation			tanis
	field laborers	factory laborers	superv.& skilled laborers	field laborers	factory laborers	superv.& skilled laborers	
cash.....	30	36	54	39	42	56	51
credit.....	64	61	40	39	47	37	8
in-kind.....	6	3	6	22	11	7	41
Total.....	100	100	100	100	100	100	100

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From the above figures it appears that the wage earner families living on the plantation bought relatively more on credit and less for cash when acquiring consumption articles than did the groups living off the plantation. The field laborers, factory laborers, and supervisors and skilled laborers living on the plantations pay immediately for respectively 32, 37, and 57% of the articles acquired for consumption; for those living off the plantation these figures become 50, 47 and 60%. In the former group it is to be noted that as regards the total value of the acquired articles for consumption (excluding the value of the consumption articles acquired in kind), the supervisors and skilled laborers paid cash for a larger share than did the field and factory laborers. The consumption of goods received in kind is of greater significance for the field and factory laborers living off the plantation than for the remaining family groups for whom this item is only slightly more than 5% of the total value consumed. Half the consumption expenditures was made up of articles purchased for cash, while the other half was more than 80% received in kind. Thus the manner in which the tani families provide for their living differs greatly from that of the wage earner families. As was to be expected the agriculture enterprise is a significant factor in this. A large share of the consumed articles (namely, food) could be drawn directly from this enterprise. For the remainder, no less than 80% was paid directly in cash. As regards the data from the individual plantations it can be stated that credit in West Java, in so far as it concerns the acquisition of articles for consumption, plays a much greater role than in East and especially than in Central Java. Further it was noted that the wage earners living on the coffee plantations usually pay immediately when they purchase articles for consumption. This is probably related to the fact that in the coffee-picking time the pickers, who for a large part are only temporarily employed by the plantation, are paid daily.

5. Consumption Expenditures Divided into 6 Groups

In Tables 150 through 153 consumption expenditures are divided into six groups of which some mention has already been made on page 73. A summary of the general averages follows.

.....Table on page 77.

The most striking thing in the above tables is the great significance of the expenditures for food. The share of the expenditures for this purpose is much smaller in both groups of supervisors and skilled laborers (58 and 59%) than in the remaining family groups (71 to 75%) which show only slight variations in this regard. Such high percentages are not indicative of great prosperity. The fact that the percentage is not higher for the tanis and for the field laborers living off the plantation (the least prosperous groups) than for the remaining field and factory laborers, is an indication that, although higher percentages do occur in individual statistics on the plantations, even among the poorest levels of the population the expenditures for food over a long period will not amount to more than 75 to 80% of the total expenditures for consumption. This implies that the more prosperous field and fac-

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THE EXPENDITURES FOR CONSUMPTION DIVIDED INTO 6 GROUPS

Division of consumption into the 6 groups listed below.	Per family per month in cents						
	Living on plantation			Living off plantation			tanis
	field labor-ers	fac-tory labor-ers	superv.& skilled labo r-ers	field labor-ers	fac-tory labor-ers	superv.& skilled labor-ers	
Food.....	646	764	1003	412	548	939	474
Fire, illu-mination and water.....	64	67	127	44	67	122	58
Clothing.....	45	70	139	15	26	122	20
Housing.....	13	8	36	3	5	57	13
Luxury items.	71	90	139	33	52	108	35
Miscellaneous	44	50	252	42	63	265	66
Total.....	883	1048	1697	549	762	1612	666
	Per person per day in cents						
Food.....	5.9	6.2	7.4	2.9	3.6	5.6	3.0
Fire, illu-mination and water.....	0.6	0.5	0.9	0.3	0.5	0.7	0.4
Clothing.....	0.4	0.6	1.0	0.1	0.2	0.7	0.1
Housing.....	0.1	0.1	0.3	0.0	0.0	0.3	0.1
Luxury items.	0.7	0.7	1.0	0.2	0.4	0.6	0.2
Miscellaneous	0.4	0.4	1.9	0.3	0.4	1.6	0.4
Total.....	8.0	8.5	12.5	3.8	5.1	9.5	4.3

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THE EXPENDITURES FOR CONSUMPTION DIVIDED INTO 6 GROUPS (cont.)

Division of consumption into the 6 groups listed below	In % of the total expenditures for consumption						
	Living on plantation			Living off plantation			tanis
	field labor-ers	fac-tory labor-ers	superv.& skilled labor-ers	field labor-ers	fac-tory labor-ers	superv.& skilled labor-ers	
Food.....	73	73	59	75	72	58	71
Fire, illu-mination and water.....	7	6	8	8	9	8	9
Clothing.....	5	7	8	3	3	8	3
Housing.....	1	1	2	1	1	4	2
Luxury items.	8	9	8	6	7	7	5
Miscellaneous	5	5	15	8	8	16	10
Total.....	100	100	100	100	100	100	100

tory laborers have not yet reached a level at which clear shifts in the general composition of the budget of consumption expenditures begin to appear. This shift manifests itself among the supervisors and skilled laborers in the increased significance of the "miscellaneous" group and to a lesser extent also the "clothing" group. It further appears from the above figures that among the field and factory laborers living on the plantation the share of the expenditures for "clothing" and "luxury items" forms a larger part of the total than is the case for similar groups living off the plantation, while the share for "fire, illumination and water" and "miscellaneous" is smaller. As regards the statistics for the individual plantations it appears that the share of the expenditures for "food" in the total consumption expenditures is larger in West Java than in Central and East Java, while in the latter provinces the expenditures for "fire, illumination and water" and "miscellaneous" are of relatively more significance. The expenditures under "miscellaneous" are especially sizable in Central Java because, as we shall presently see, on the two plantations situated in the princely lands (M.J. ta.1 and M.J. su.2a) much money was spent for feasts in September 1939, the month before the puasa (fasting month).

In the following observations on the six groups the differences in manner of living will be discussed in greater detail.

6. The Expenditures for Food

Tables 154 through 165 divide the expenditures for food into fourteen sub-groups. A summary of this gives the following picture.

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THE EXPENDITURES FOR FOOD

Division of the group "food" into the following fourteen sub-groups	Per family per month in cents						
	Living on plantation			Living off plantation			tanis
	field labor-ers	fac-tory labor-ers	superv.& skilled labor-ers	field labor-ers	fac-tory labor-ers	superv.& skilled labor-ers	
Meat and meat products.....	13	25	63	6	8	45	5
Fish and fish products.....	60	71	83	25	28	60	30
Other animal foods.....	1	1	14	0	1	9	0
Grains.....	392	429	461	270	291	425	309
Tubers.....	9	13	11	9	9	10	11
Various flours and articles made from flour	6	8	17	7	6	11	5
Sugars.....	22	28	71	10	24	59	14
Albumin and fat sources..	38	49	93	19	53	101	30
Vegetables...	23	17	46	22	27	46	26
Fruits.....	8	14	19	2	3	9	2
Tea and coffee.....	18	24	49	9	20	48	12
Salt and vinegar.....	15	12	18	12	9	17	14
Spices.....	6	5	8	9	24	28	8
Completely prepared dishes.....	35	66	51	12	47	71	8
Total.....	646	764	1003	412	548	939	474

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THE EXPENDITURES FOR FOOD (cont.)

Division of the group "food" into the following fourteen sub-groups	Per person per day in cents						
	Living on plantation			Living off plantation			tanis
	field labor-ers	fac-tory labor-ers	superv.& skilled labor-ers	field labor-ers	fac-tory labor-ers	superv.& skilled labor-ers	
Meat and meat products.....	0.12	0.21	0.46	0.04	0.05	0.26	0.03
Fish and fish products.....	0.54	0.58	0.61	0.17	0.19	0.36	0.19
Other animal foods.....	0.01	0.01	0.10	0.00	0.00	0.05	0.00
Grains.....	3.56	3,50	3.40	1.89	1.93	2.51	1.97
Tubers.....	0.08	0.10	0.08	0.07	0.06	0.06	0.07
Various flours and articles made from flour	0.05	0.07	0.13	0.05	0.04	0.06	0.03
Sugars.....	0.20	0.23	0.52	0.07	0.16	0.35	0.09
Albumin and fat sources..	0.35	0.40	0.68	0.13	0.35	0.59	0.19
Vegetables...	0.21	0.14	0.34	0.16	0.18	0.27	0.17
Fruits.....	0.07	0.12	0.14	0.01	0.02	0.05	0.02
Tea and coffee.....	0.16	0.19	0.36	0.06	0.13	0.28	0.08
Salt and vinegar.....	0.14	0.10	0.13	0.08	0.06	0.10	0.08
Spices.....	0.05	0.04	0.06	0.07	0.16	0.17	0.05
Completely prepared dishes.....	0.32	0.54	0.38	0.08	0.31	0.42	0.05
Total.....	5.87	6.22	7.40	2.88	3.64	5.55	3.02

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THE EXPENDITURES FOR FOOD (cont.)

Division of the group "food" into the following fourteen sub-groups	In % of the total expenditures for food						
	Living on plantation			Living off plantation			tanis
	field labor-ers	fac-tory labor-ers	superv.& skilled labor-ers	field labor-ers	fac-tory labor-ers	superv.& skilled labor-ers	
Meat and meat products.....	2	3	6	1	2	5	1
Fish and fish products.....	9	9	8	6	5	6	6
Other animal foods.....	0	0	1	0	0	1	0
Grains.....	61	56	46	66	53	45	65
Tubers.....	1	2	1	2	2	1	2
Various flours and articles made from flour	1	1	2	2	1	1	1
Sugars.....	3	4	7	2	4	6	3
Albumin and fat sources..	6	6	9	5	10	11	6
Vegetables...	4	2	5	5	5	5	6
Fruits.....	1	2	2	0	1	1	1
Tea and coffee.....	3	3	5	2	4	5	3
Salt and vinegar.....	2	2	2	3	2	2	3
Spices.....	1	1	1	2	4	3	2
Completely prepared dishes.....	5	9	5	3	9	8	2
Total.....	100	100	100	100	100	100	100

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The factors which led to the above named division into fourteen subgroups will be discussed later in the chapter on the nutritive value of the menu. From the above table it appears that the absolute expenditures for food are quite a bit larger for the different types of wage earners living on the plantation than for their fellow employees living off the plantation. Within the group living on the plantation there is an increase over those living off the plantation in the sequence: field laborers, factory laborers, and supervisors and skilled laborers. The tani families' expenditures for food are slightly higher than those of the field laborers living off the plantation. In surveying the breakdown of the expenditures among the various subgroups the great significance of the subgroup "grains" becomes evident. This subgroup accounts for 40 to 50% of the expenditures for food among the supervisors and skilled laborers, 50 to 60% among the factory laborers, and no less than 60 to 70% among the field laborers and tanis. It appears clear that the relative importance of the expenditure for grain declines as the total expenditures for food and thus also the total consumption expenditures per family per month and per person per day increase. If we disregard the subgroup "completely prepared dishes" (in addition to the fact that the main components of these dishes are grains, their consumption is not dependent upon differences in prosperity but rather upon the nature of the work which is performed), then we see that as the proportionate expenditures for grains decrease in the total expenditures for food, the expenditures for the subgroups "meat and meat products," "sugars," "albumin and fat sources," and "tea and coffee" grow in importance. Finally we see from the above table that the families living on the plantation spend proportionately slightly more for "animal foods" and less for "vegetables" and "spices" than those living off the plantation. In the figures of the individual plantations (Tables 154 through 165) it is striking that the families living off the plantations in West Java spend proportionately much more for "grains" and "animal foods" (the field laborers living off the plantation and the tanis spend almost 90% of their total expenditures for food for these items) than those of Central and East Java in which provinces the expenditures for "albumin and fat sources" and "vegetables" especially are of greater significance. Lastly we note that the expenditures for "completely prepared dishes" are especially of significance on the coffee and sugar plantations of Central and East Java (on the coffee plantation O.J. ko.3 the plantation made completed dishes available at cost to a large part of the personnel working in the fields).

Standard budgets which are to serve as bases for checking the cost of living must be both representative and wieldy. With this in view a number of food articles were selected out of the above fourteen subgroups which had to meet the following requirements:

1. their significance within the total expenditures for food could not be too little;
2. their price determination had to be without obstacles.

Tables 166 through 177 give the expenditures for these selected food articles while a summary of this is given in the following table.

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THE EXPENDITURES FOR THE SPECIFIED FOOD ARTICLES

Specification of the food	Per family per month in cents						
	Living on plantation			Living off plantation			tanis
	field labor-ers	fac-tory labor-ers	superv.& skilled labor-ers	field labor-ers	fac-tory labor-ers	superv.& skilled labor-ers	
salted teri fish (small anchovy.....	4	6	4	3	2	2	2
ikan asin peda (fish pickled in brine)....	9	12	5	2	0	0	2
ikan asin tawes (bader)(salted unid fish....	5	3	4	3	2	2	3
ikan asin klotok.....	5	3	2	2	3	5	2
husked and pounded rice.	352	405	443	229	257	393	251
pounded corn.	38	18	10	39	28	19	56
fresh cassava	7	8	6	4	2	3	7
dried cassava	1	0	0	5	3	2	3
white sugar..	10	11	49	2	6	31	7
brown sugar..	10	14	12	4	6	13	6
ontjom (vege-table food-stuff).....	2	5	4	1	-	-	1
fermented soya-bean cakes (tempe).....	10	10	21	6	18	31	10
soyabean cakes (tahu).....	4	5	12	1	6	12	3
coconut meat.	7	6	13	5	12	17	7
coconut oil..	11	16	31	5	14	35	7
tea.....	2	5	9	2	4	12	2
coffee.....	16	19	40	3	5	23	7
salt.....	15	12	18	12	9	17	14
remainder....	141	207	319	85	170	324	86
Total.....	646	764	1003	412	548	939	474

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THE EXPENDITURES FOR THE SPECIFIED FOOD ARTICLES (cont.)

Specification of the food	Per person per day in cents						
	Living on plantation			Living off plantation			tanis
	field laborers	factory laborers	superv.& skilled laborers	field laborers	factory laborers	superv.& skilled laborers	
Salted teri fish.....	0.03	0.05	0.03	0.02	0.01	0.01	0.01
ikan asin peda.....	0.08	0.09	0.04	0.02	0.00	0.00	0.01
ikan asin tawes (bader)	0.04	0.02	0.03	0.02	0.02	0.01	0.02
ikan asin klotok.....	0.04	0.03	0.01	0.01	0.02	0.03	0.01
husked and pounded rice.	3.19	3.30	3.27	1.60	1.71	2.32	1.60
pounded corn.	0.34	0.15	0.08	0.27	0.19	0.11	0.36
fresh cassava	0.06	0.06	0.04	0.03	0.01	0.02	0.04
dried cassava	0.01	0.00	0.00	0.03	0.02	0.01	0.02
white sugar..	0.09	0.09	0.36	0.01	0.04	0.19	0.04
brown sugar..	0.09	0.11	0.09	0.03	0.04	0.07	0.04
ontjom.....	0.02	0.04	0.03	0.01	-	-	0.00
fermented soyabean cakes	0.09	0.08	0.16	0.04	0.12	0.18	0.06
soyabean cakes	0.03	0.04	0.08	0.01	0.04	0.07	0.02
coconut meat.	0.06	0.05	0.10	0.03	0.08	0.10	0.04
coconut oil..	0.10	0.13	0.23	0.03	0.09	0.21	0.05
tea.....	0.02	0.04	0.06	0.02	0.03	0.07	0.02
coffee.....	0.14	0.15	0.30	0.02	0.03	0.13	0.04
salt.....	0.14	0.10	0.13	0.08	0.06	0.10	0.09
remainder....	1.28	1.68	2.35	0.60	1.13	1.91	0.55
Total.....	5.87	6.22	7.40	2.88	3.64	5.55	3.02

.....Remainder of table on page 85.

From the above table it appears that the expenditures for the specified articles of food among the families which were investigated accounted for 70 to 80% of the total expenditures for food. Both in the groups living on the plantation and those living off the plantation this percentage decreases as the prosperity increases in the sequence: field laborers, factory laborers, and supervisors and skilled laborers. For tanis it is even somewhat higher than for field laborers.

The expenditures for the very important subgroup "grains" consist for 81% (among tanis) to 96% (supervisors and skilled laborers living on the plantation) of rice (husked and pounded rice, excluding ketan and rice from rice candies and completely prepared dishes). Next to that only the expenditures for pounded corn is of

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THE EXPENDITURES FOR THE SPECIFIED FOOD ARTICLES (cont.)

Specification of the food	In % of the total expenditures for food						
	Living on plantation			Living off plantation			tanis
	field labor-ers	fac-tory labor-ers	superv.& skilled labor-ers	field labor-ers	fac-tory labor-ers	superv.& skilled labor-ers	
salted teri fish.....	1	1	0	1	0	0	0
ikan asin peda.....	1	2	1	1	0	0	0
ikan asin tawes.....	1	0	0	1	0	0	1
ikan asin klotok.....	1	0	0	0	1	0	0
husked and pounded rice.	54	53	44	56	47	42	53
pounded corn.	6	2	1	9	5	2	12
fresh cassava	1	1	1	1	0	0	1
dried cassava	0	0	0	1	1	0	1
white sugar..	2	1	5	0	1	3	1
brown sugar..	2	2	1	1	1	1	1
ontjom.....	0	1	0	0	-	-	0
fermented soyabean cakes	1	1	2	1	3	3	2
soyabean cakes	1	1	1	0	1	1	1
coconut meat.	1	1	1	1	2	2	1
coconut oil..	2	2	3	1	3	4	2
tea.....	0	1	1	1	1	1	1
coffee.....	2	2	4	1	1	2	1
salt.....	2	2	2	3	2	2	3
remainder....	22	27	32	21	31	34	18
Total.....	100	100	100	100	100	100	100

any significance in this subgroup. It is striking that the absolute expenditures for this item decline with increased prosperity for wage earners living both on and off the plantation. From Tables 166 through 177 it appears that the expenditures for pounded corn are encountered primarily in East Java. Of the expenditures for the subgroup "fish and fish products" four individual sorts are given here; together the amounts spent for them do not total half of the expenditures for this subgroup. This is partly due to the fact that especially in Central Java only the collective name (gereh, ikan asin and asinan) is often used while the type name is not given, and partly because expenditures for such important articles as pindangs (areca-nuts)(especially in East Java) and trasi (fish-paste) were not registered since there was such great variance in the quality even in one location. Further specifications of expenditures have been given for the subgroups

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"sugar" (white sugar and brown sugar), "albumin and fat sources" (ontjom, tempe, tahu, coconut meat and coconut oil), "tea and coffee" (tea and coffee (1)), and "salt and vinegar" (salt) and a small part of the expenditures for the subgroups "tubers" (fresh cassava) and "various flours and articles made from flour" (dried cassava). Although the expenditures for these specified articles never exceeds 5% of the total expenditures for food it can clearly be seen that the increasing significance of the expenditures in the subgroups "sugars," "albumin and fat sources," and "tea and coffee" which was seen on page 82 to accompany an increase in the expenditure for food, is in first instance a consequence of the strong rise in expenditures for white sugar, tempe, coconut oil and coffee. No further specified articles have been taken from the subgroups "meat and meat products," "other animal foods," "vegetables," "fruits," "spices," and "completely prepared dishes." On the one hand this was due to the relative insignificance of the expenditures for these items (i.e., the subgroup "other animal foods") and on the other hand there were too many problems connected with numerous varieties (i.e., the subgroups "vegetables" and "fruits") and/or price determination (i.e., the subgroups "spices" and "completely prepared dishes"). In addition to what has been said above about corn and fish we see from Tables 166 through 177 that expenditures for some articles occur only in West Java, others again exclusively in Central and/or East Java (for example, expenditures for ontjom occur only in West Java, those for tempe and analogous products only in Central and East Java; see also the expenditures for tea and coffee which are closely related to the location where these types of plantations are encountered). In the chapters on the amounts consumed and the nutritive value this matter will be discussed further.

As has been noted previously, only a limited number of food articles are considered for determining the cost of the food. These specified food articles can be classed as representative, collectively for the entire category of food as such, and individually for the subgroups to which they belong. This matter will be discussed again in the consideration of the amounts used and the prices which were paid for them.

7. The Expenditures for Fire, Illumination and Water

In Tables 178 through 181 the expenditures for fire, illumination and water are divided into four subgroups. The following general averages were obtained here.

.....Table on page 87.

In the above table the subgroup areng (charcoal) has been omitted because not a single expenditure was noted for this item. The expenditures for wood must be viewed with certain reservations. In addition to the fact that the value of the amount used could not always be accurately determined (for instance on the plantation

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(1) This subgroup includes among other items gula kopi (coffee sugar).

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THE EXPENDITURES FOR FIRE, ILLUMINATION AND WATER

Division of the group "fire, illumination and water" into four subgroups	Per family per month in cents						
	Living on plantation			Living off plantation			tanis
	field laborers	factory laborers	superv.& skilled laborers	field laborers	factory laborers	superv.& skilled laborers	
Wood.....	30	27	43	23	33	47	32
Matches, lighters, lighter fluid, flints, etc..	1	1	4	0	1	4	1
Illumination.	32	37	78	21	30	63	26
Water.....	0	1	3	0	3	7	0
Total.....	64	67	127	44	67	122	58
	Per person per day in cents						
Wood.....	0.27	0.22	0.31	0.16	0.22	0.28	0.20
Matches, lighters, lighter fluid, flints, etc..	0.01	0.01	0.03	0.00	0.00	0.02	0.01
Illumination.	0.29	0.30	0.57	0.14	0.20	0.37	0.16
Water.....	0.00	0.01	0.02	0.00	0.02	0.04	0.00
Total.....	0.58	0.54	0.94	0.31	0.45	0.72	0.37
	In % of the total expenditures for fire, illumination and water						
Wood.....	47	41	34	52	50	39	54
Matches, lighters, lighter fluid, flints, etc..	2	2	3	1	1	3	1
Illumination.	51	55	61	46	44	52	44
Water.....	0	2	3	1	5	6	0
Total.....	100	100	100	100	100	100	100

W.J. ru. la&lb), the determination of the value of wood is very difficult since most of it was received in kind. Comparisons in these expenditures for wood is only possible among sorts that are on the commercial market, but this is hardly ever the case with the dry sticks and dead wood to which the above figures often refer. A difficulty also presents itself in the expenditures for illumination which, just as those for wood, form about fifty percent of the expenditures for "fire, illumination and water." In some of the plantation housing areas (mostly only in factory

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laborers' housing areas) the houses or part of them were provided with electric light at no cost. Since the value of this illumination could not be determined, a true comparison of the expenditures for illumination of the various family groups is only possible among those living off the plantation. In this group we can clearly see expenditures rise as prosperity increases (among the wage earner families who were investigated therefore also as the size of the houses increased). The expenditures for the subgroups "matches, lighters, lighter fluid, flints, etc." and "water" are in general of slight significance. From Tables 178 through 181 it appears that expenditures for this first subgroup occur on all plantations, but those for the second group occur on only a few plantations and can be quite significant where they occur. In addition to the cost of buying water, this last item also includes the expenditures for hauling water.

The expenditures for the above discussed subgroups are not always further specified; those for illumination deal almost entirely with petroleum.

8. The Expenditures for Clothing

In Tables 182 through 185 the expenditures for clothing are divided into three subgroups. The following table gives a summary of this.

THE EXPENDITURES FOR CLOTHING

Division of the group "clothing" into three subgroups(1)	Per family per month in cents						
	Living on plantation			Living off plantation			tanis
	field laborers	factory laborers	superv.& skilled laborers	field laborers	factory laborers	superv.& skilled laborers	
Purchase and repairs of clothing and shoes.....	38	53	113	13	20	100	17
Maintenance of clothing and shoes.....	7	16	26	2	7	22	3
Total.....	45	70	139	15	26	122	20

(1) The third subgroup has not been included in the table because there are no figures listed under that subgroup in the tables in Vols. II and III.

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THE EXPENDITURES FOR CLOTHING (cont.)

Division of the group "clothing" into three subgroups	Per person per day in cents						
	Living on plantation			Living off plantation			tanis
	field labor-ers	fac-tory labor-ers	superv.& skilled labor-ers	field labor-ers	fac-tory labor-ers	superv.& skilled labor-ers	
Purchase and repairs of clothing and shoes.....	0.34	0.43	0.83	0.09	0.13	0.59	0.11
Maintenance of clothing and shoes....	0.07	0.13	0.19	0.01	0.04	0.13	0.02
Total.....	0.41	0.57	1.03	0.11	0.17	0.72	0.13
	In % of the total expenditures for clothing						
Purchase and repairs of clothing and shoes.....	84	77	81	87	75	82	86
Maintenance of clothing and shoes....	16	23	19	13	25	18	14
Total.....	100	100	100	100	100	100	100

The expenditures for clothing deal principally with purchase and repairs (seamstress' wages, thread, pins, etc.). In addition the expenditures for maintenance (soap, bluing, etc.) are of some significance. The families living on the plantation spend quite a bit more for both subgroups than do the families living off the plantation. Within both groups of families the expenditures for this item rise sharply with an increase in prosperity. From Tables 182 through 185 it appears that the clothing expenditures are higher in West Java than in Central and East Java; there are also great variations in the figures of the individual plantations. In addition to differences in prosperity, the reason for this is probably to be found in the irregular division of the clothing expenditures in the course of the year.

A more detailed specification of the expenditures for clothing was not possible. The type and quality of the acquired articles varied too greatly for that.

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9. The Expenditures for Housing

In Tables 186 through 189 the expenditures for housing are divided into three subgroups. The general averages of this are given in the following table.

THE EXPENDITURES FOR HOUSING

Division of the group "housing" into three subgroups	Per family per month in cents						
	Living on plantation			Living off plantation			tanis
	field labor-ers	fac-tory labor-ers	superv.& skilled labor-ers	field labor-ers	fac-tory labor-ers	superv.& skilled labor-ers	
Rent.....	-	-	16	-	1	14	-
Purchanse and maintenance (incl. repairs) of house and other build-ings.....	3	1	2	1	2	24	5
Purchase and maintenance (incl. repairs) of furniture and effects..	10	7	18	2	3	19	8
Total.....	13	8	36	3	5	57	13
	Per person per day in cents						
Rent.....	-	-	0.12	-	0.00	0.08	-
Purchase and maintenance (incl. repairs) of house and other build-ings.....	0.02	0.00	0.02	0.01	0.01	0.14	0.03
Purchase and maintenance (incl. repairs) of furniture and effects..	0.09	0.06	0.13	0.02	0.02	0.11	0.55
Total.....	0.11	0.06	0.27	0.02	0.03	0.34	0.08

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THE EXPENDITURES FOR HOUSING (cont.)

Division of the group "housing" into three subgroups	In % of the total expenditures for housing						
	Living on plantation			Living off plantation			tanis
	field laborers	factory laborers	superv.& skilled laborers	field laborers	factory laborers	superv.& skilled laborers	
Rent.....	-	-	45	-	10	24	-
Purchase and maintenance (incl. repairs) of house and other buildings.....	21	8	6	27	31	42	36
Purchase and maintenance (incl. repairs) of furniture and effects..	79	92	49	73	59	34	64
Total.....	100	100	100	100	100	100	100

From the above table it appears that the expenditures for housing are in general of little significance. They are largest among the supervisors and skilled laborers who use from two to four percent of their consumption expenditures for this purpose. Since rent practically never has to be paid (on the timber reserves some of the higher paid personnel had to pay 9% of their income for the occupation of a government house) and since the costs of normal repairs and maintenance is borne by the plantation, one can hardly expect large expenditures for the subgroups "rent" and "purchase and maintenance of house and other buildings" for those families living on the plantation. With the exception of small, recurring expenditures for maintenance, the cost of housing will be distributed unevenly over the year since large expenditures for the purchase of house and furniture as well as any large repairs occur very seldom. In the figures for the individual plantations (Tables 186 through 189) this becomes evident. Next to a large number of small expenditures one finds a few large ones which only have reference to one or at the most a few families. The expenditures for housing could not be more precisely defined. In this connection it can be noted that the expenditures for the subgroup "rent" could only be more clearly defined by taking into account the quality of the houses, and this--even leaving aside the subjectivity of any such judgment--would have no sense in view of the very small number of houses involved in the investigation.

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10. The Expenditures for Luxury Items

In Tables 190 through 193 the expenditures for luxury items are divided into two subgroups. The following general averages were obtained.

THE EXPENDITURES FOR LUXURY ITEMS

Division of the group "luxury items" into two subgroups	Per family per month in cents						
	Living on plantation			Living off plantation			tanis
	field labor-ers	fac-tory labor-ers	superv.& skilled labor-ers	field labor-ers	fac-tory labor-ers	superv.& skilled labor-ers	
Articles for smoking.....	53	70	117	24	41	90	26
Betel and articles used with betel...	18	20	22	9	11	18	9
Total.....	71	90	139	33	52	108	35
	Per person per day in cents						
Articles for smoking.....	0.48	0.57	0.86	0.17	0.27	0.53	0.17
Betel and articles used with betel...	0.17	0.16	0.16	0.06	0.07	0.11	0.06
Total.....	0.65	0.73	1.03	0.23	0.35	0.64	0.22
	In % of the total expenditures for luxury items						
Articles for smoking.....	74	78	84	74	78	83	75
Betel and articles used with betel...	26	22	16	26	22	17	25
Total.....	100	100	100	100	100	100	100

From the above table we see that the expenditures for luxury items rise rather sharply as prosperity increases. As has already been mentioned on page 78, the expenditures for luxury items among the wage earner families living on the plantation was relatively somewhat larger than that among those living off the plantation. Among both groups the expenditures for articles for smoking are of

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greater importance than those for betel and betel accessories; and it is notable that the relative importance of the former expenditure increases in like proportion for both groups as the prosperity increases, namely from 74% for the field laborers (75% for tanis) to 78% for the factory laborers and 83-84% for the supervisors and skilled laborers. In the figures for the individual plantations the relatively high expenditures among the coffee plantations are striking. Primarily for this reason the expenditures in East Java for luxury items of wage earner families living on the plantations was higher than that of West Java. Among the family groups living off the plantation the expenditures for luxury articles in general keeps pace with the size of the entire consumption expenditure.

Because of the great differences in articles falling under the subgroup "articles for smoking," it was not possible to give further specifications of the expenditures for luxury articles.

11. Miscellaneous Expenditures

In Tables 194 through 205 the "miscellaneous" expenditures are divided into eleven subgroups. A summary of the general averages obtained there is given below.

.....Table on page 94.

On page 78 it was already mentioned that the family groups living off the plantation spend in an absolute sense almost as much as those groups living on the plantation for miscellaneous items; consequently their relative miscellaneous expenditure is higher. This is due primarily to the fact that the expenditures for religion and charity are of greater significance in the groups living off the plantation. This subgroup takes an important place in the miscellaneous expenditures and was for more than 90% made up of expenditures on individually sponsored communal religious feasts (selametans). In addition to the expenditures for "religion and charity" the only other expenditures worthy of note are in the group of supervisors and skilled laborers and are those for "care of health and body" /costs of doctors and healers (dukuns) as well as of medicines, massages, bath soap, haircuts, etc.), "intellectual care and education" (in addition to tuition and expenditures for learning aids, also board and pin money of the children who are going to school), "transportation," "social obligations" (contributing to communal religious feasts given by others), and "support of family." The miscellaneous expenditures form no less than 15-16% of the total consumption expenditures among the supervisors and skilled laborers and are second in importance only to food for this group. From Tables 194 through 205 it appears that there is great variation in the "miscellaneous expenditures" among the individual plantations. This is primarily due to differences in expenditures for "religion and charity" which are most significant in Central Java and least significant in West Java, and also due, in the case of the supervisors and skilled laborers especially those living on the plantation, to the part which other miscellaneous expenditures play. It scarcely need be mentioned that the

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MISCELLANEOUS EXPENDITURES

Division of the group "miscellaneous" into eleven subgroups	Per family per month in cents						
	Living on plantation			Living off plantation			tanis
	field labor-ers	fac-tory labor-ers	superv.& skilled labor-ers	field labor-ers	fac-tory labor-ers	superv.& skilled labor-ers	
Care of health and body.....	3	5	26	2	3	18	2
Intellectual care and education....	1	1	30	1	1	18	1
Transporta-tion.....	2	2	48	3	0	32	5
Correspondence and postage..	0	0	1	0	1	1	0
Religion and charity.....	21	25	49	31	38	126	45
Social obliga-tions.....	8	8	38	3	19	43	10
Support of family.....	7	6	40	1	0	15	1
Sports and recreation...	0	0	8	0	1	2	0
Purchase and maintenance of plants and animals.....	0	-	1	-	0	2	0
Servants' wages.....	2	2	6	0	0	4	1
Remainder....	0	2	5	1	0	4	1
Total.....	44	50	252	42	63	265	66

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MISCELLANEOUS EXPENDITURES (cont.)

Division of the group "miscellaneous" into eleven subgroups	Per person per day in cents						
	Living on plantation			Living off plantation			tanis
	field laborers	factory laborers	superv.& skilled laborers	field laborers	factory laborers	superv.& skilled laborers	
Care of health and body.....	0.02	0.04	0.19	0.01	0.02	0.10	0.01
Intellectual care and education....	0.01	0.01	0.22	0.01	0.01	0.11	0.01
Transportation.....	0.02	0.01	0.35	0.02	0.00	0.19	0.03
Correspondence and postage..	0.00	0.00	0.01	0.00	0.00	0.01	0.00
Religion and charity.....	0.19	0.20	0.36	0.22	0.25	0.75	0.29
Social obligations.....	0.07	0.07	0.28	0.02	0.13	0.26	0.06
Support of family.....	0.07	0.05	0.29	0.01	0.00	0.09	0.01
Sports and recreation...	0.00	0.00	0.06	0.00	0.00	0.01	0.00
Purchase and maintenance of plants and animals.....	0.00	-	0.01	-	0.00	0.01	0.00
Servants' wages.....	0.02	0.01	0.04	0.00	0.00	0.02	0.00
Remainder....	0.00	0.01	0.04	0.00	0.00	0.02	0.00
Total.....	0.40	0.41	1.86	0.29	0.42	1.56	0.42

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MISCELLANEOUS EXPENDITURES (cont.)

Division of the group "miscellaneous" into eleven subgroups	In % of the total miscellaneous expenditures						
	Living on plantation			Living off plantation			tänis
	field labor-ers	fac-tory labor-ers	superv.& skilled labor-ers	field labor-ers	fac-tory labor-ers	superv.& skilled labor-ers	
Care of health and body.....	6	11	10	4	4	7	4
Intellectual care and education....	2	1	12	2	1	7	2
Transporta-tion.....	4	3	19	7	1	12	7
Correspondence and postage..	0	0	0	0	0	0	0
Religion and charity.....	47	49	19	74	60	48	68
Social obliga-tions.....	19	17	15	7	31	16	15
Support of family.....	17	11	16	4	1	6	2
Sports and recreation...	0	0	3	1	1	1	0
Purchase and maintenance of plants and animals.....	0	-	0	-	0	1	0
Servants' wages.....	5	3	2	0	0	1	1
Remainder....	0	4	2	2	0	1	1
Total.....	100	100	100	100	100	100	100

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miscellaneous expenditures can be subject to tremendous fluctuations in the course of a year. Expenditures for communal religious feasts at births, deaths, circumcisions, etc. not to mention expenditures for illness, occur irregularly and unexpectedly, while other feasts (ruwahan, muludan, etc.) occur at regular times but usually fall in certain months. Another important factor is that much more is done in the way of communal religious feasts in one district than in another. In the princely lands in September 1939, many communal religious feasts were given because of ruwahan (the month before the fasting period). In West Java an investigation was held at the same time on the plantation W.J. th.1, but here the feasts consisted of feast meals eaten within the family circle and were therefore counted under the normal food expenditures. From the above it appears that the place of miscellaneous expenditures within the total consumption expenditures cannot be established with certainty. One thing is clear however, that is that with increasing prosperity the miscellaneous expenditures increase more rapidly than those of any other group.

B. The Amounts of Consumption Articles Consumed

1. The Trustworthiness of the Acquired Data

Already in the beginning of this chapter it was said that the basis for determining the consumption was the consumption articles used during the period of the investigation. Usually in the case of articles bought for cash or credit only the amount spent and not the amount purchased could be noted, for these articles had already been partly or completely consumed at the moment that the family was asked about them. The amounts purchased therefore had to be determined later. This was done on the basis of figures which were obtained by buying in large amounts what had been bought by the investigated families and to weigh (or measure) this. The determination of weights (measures) of the articles which had not been weighed (measured) could thereupon occur in two manners:

1. by using the weights of each series of test purchases until a new test purchase of these articles was made;
2. by averaging the weights of several series of test purchases, which averages could be used during a shorter or longer period.

Since the articles which were purchased by the families which were investigated (concern here is primarily with food articles) were generally divided quite evenly over the period of investigation, and noticeable price fluctuations did not occur in this period, the differences between the two systems was lost in practice. Originally the first named method was used, and later the second named method (per half month) which gave a wider scope was put into practice.

In order to approach as nearly as possible the actual conditions, the test purchases were made by unselected persons and were made from the same merchants from whom the investigated families also made their purchases. It was attempted in so far as possible

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to hide the reason for this purchase from the merchant. In addition in purchasing the various articles, account had to be taken of the amounts which the population normally spent for such purchases. It is self-evident that for articles which are sold at set prices in standardized form (i.e., packed articles), the weight of the amounts normally purchased by the people could be determined quite accurately. Also for the chief food article rice, of which the significance only becomes apparent in the discussion of the nutritive value, the amounts used by each family could be accurately determined since rice is sold and used according to certain standard measures (batoks, beruks, kobokans, katis, liters, etc.) which could later be checked for accuracy by sample testings. For other articles (i.e., sugar, salt, etc.) the absolute truth could only be approached by making a very large number of test purchases since the amount of one article of the same quality which was obtained for a certain sum oftentimes varied greatly, even with the same merchant. Especially in markets the prices fluctuated greatly especially also because the time at which the purchase is made also has an influence here. For purposes of control, therefore, the investigated families had to tell the origin of each article. Even so it was not always possible to subject the article which had been bought from a particular dealer to a controlled purchase since the article was sometimes no longer available at that merchant's store. In that event it was necessary to acquire the amount which was obtained at a nearby store (or stand) for the same amount of money. The same thing occurred with articles which had been purchased on markets and especially when this type of purchase occurred outside the locality of the investigation, since test purchases could not be made from all salesmen. There are really no serious objections attached to this latter method of controlling purchases since the prices among the various merchants of a particular district at a given time show a great similarity. Consequently it was possible to use the average price of all merchants in a given district (excluding salesmen in the market place who were checked separately) as a satisfactory figure. Finally it must be mentioned that buying for cash is oftentimes more advantageous than buying on credit. No particular standard can be set up for this, however, since the credit-risk of the person involved plays a role here.

If the above mentioned difficulties were already formidable, those which were experienced with regard to the consumption articles received in kind were even greater. Also for these articles the quantity had to be determined at a later time, in which event it was not possible to begin with the knowledge of the amount spent. In this case the quantities were determined after a sample in the size of what had been used was shown to the party in question. For an article like rice this could be done without too much difficulty, but for other articles (such as vegetables) it was very difficult. The value of the consumed quantity was then established according to current market prices or according to those for which the articles in question were offered and in certain instances (i.e., articles of little commercial value such as certain types of vegetables) according to common agreement with the person involved (see also page 45). There are difficulties attached to the process of determining the weights at a later time. Nevertheless there was no way of getting around this since it was in practice impossible to

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keep a constant check on every family member.

2. The Amounts of the Specified Food Articles Consumed

In Tables 206 through 213 the food articles for which expenditures were specified in Tables 166 through 177 are listed with the amounts consumed. The following general averages are obtained here.

THE AMOUNTS OF THE SPECIFIED FOOD ARTICLES CONSUMED

Specification of the food	Per family per month in kilograms						
	Living on plantation			Living off plantation			tanis
	field laborers	factory laborers	superv.& skilled laborers	field laborers	factory laborers	superv.& skilled laborers	
Salted teri fish.....	0.2	0.3	0.2	0.2	0.1	0.1	0.1
Ikan asin peda.....	0.3	0.5	0.2	0.1	0.0	0.0	0.1
Ikan asin tawes (bader)	0.2	0.1	0.1	0.1	0.1	0.1	0.1
Ikan asin klotok.....	0.2	0.1	0.1	0.1	0.1	0.2	0.1
husked and pounded rice.	43.4	49.3	53.1	32.3	36.5	53.0	35.7
pounded corn.	5.7	2.8	1.9	7.4	5.1	3.8	11.6
fresh cassava	3.3	3.8	2.3	5.5	1.2	2.0	6.8
dried cassava	0.2	0.0	0.1	1.6	1.2	0.7	1.0
white sugar(1)	0.8	0.8	3.4	0.1	0.4	2.3	0.5
brown sugar..	1.1	2.0	1.5	0.5	0.8	1.5	0.8
ontjom.....	0.2	0.4	0.3	0.1	-	-	0.1
fermented soyabean cakes	1.3	1.3	2.9	1.0	3.0	5.1	1.7
soyabean cakes	0.3	0.5	1.0	0.1	0.9	1.8	0.3
coconut meat.	1.4	1.2	2.9	1.1	2.3	3.1	1.8
coconut oil..	0.6	0.9	1.9	0.3	0.9	2.6	0.5
tea.....	0.0	0.1	0.2	0.1	0.1	0.2	0.1
coffee..(2)	0.5	0.8	1.5	0.1	0.2	0.9	0.3
salt..(3)....	0.9	0.8	1.1	0.7	0.6	1.2	0.9
remainder.....	21.2	31.3	38.7	21.4	33.0	51.-	20.6
Total.....	81.8	96.9	113.6	72.9	86.5	129.6	83.1

(1) excluding white sugar in coffee sugar

(2) excluding coffee in coffee sugar

(3) excluding salt in bumbu (spices)

See notes at bottom of Tables 206 through 213.

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THE AMOUNTS OF THE SPECIFIED FOOD ARTICLES CONSUMED (cont.)

Specification of the food	Per person per day in grams						
	Living on plantation			Living off plantation			tanis
	field labor-ers	fac-tory labor-ers	superv.& skilled labor-ers	field labor-ers	fac-tory labor-ers	superv.& skilled labor-ers	
salted teri fish.....	2	3	2	1	1	1	1
ikan asin peda.....	3	4	2	1	0	0	1
ikan asin tawes (bader)	2	1	1	1	1	1	1
ikan asin klotok.....	2	1	0	0	1	1	0
husked and pounded rice.	394	402	392	226	242	314	228
pounded corn.	52	23	14	52	34	22	74
fresh cassava	30	31	17	39	8	12	44
dried cassava	2	0	1	11	8	4	7
white sugar(1)	7	7	25	1	3	14	3
brown sugar..	10	16	11	3	5	9	5
ontjom.....	1	3	2	1	-	-	0
fermented soyabean cakes	12	10	22	7	20	30	11
soyabean cakes	2	4	7	1	6	11	2
coconut meat.	13	10	21	8	15	18	11
coconut oil..	6	7	14	2	6	15	3
tea.....	0	1	1	0	0	1	0
coffee..(2)..	5	6	11	1	1	5	2
salt..(3)....	8	6	8	6	4	7	6
remainder....	192	255	286	149	219	301	131
Total.....	743	789	837	510	575	766	530

(1) excluding white sugar in coffee sugar.

(2) excluding coffee in coffee sugar.

(3) excluding salt in bumbu (spices).

See notes at the bottom of Tables 206 through 213.

Although the price paid by the investigated families for the specified food articles varied here and there, as we shall see later, it can in general be said that what has been said on pages 82 through 86 with regard to the rise and decline of the specified food articles also holds for the amounts consumed. For both families living on and those living off the plantation the total amount of food consumed as a rule increases with increased prosperity (on

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this point see also the individual plantation statistics). Of these amounts, rice (excluding ketan, rice in rice candies, and rice in completely prepared dishes) made up about 50% for the family groups living on the plantation and a good 40% for the groups living off the plantation. Quite notable is the fact that among the various groups living on the plantation the consumption per person per day is about equal. The weight of the amount of food which was not subject to further specification varied from 25 to 40% of the total; this share rose with an increase in welfare for groups both on and off the plantation. From Tables 206 through 213 it further appears that in West Java, where about 80% of the amount of food consumed consists of rice, the wage earner families living on the plantation consume smaller amounts of food than in East Java. Among the family groups living off the plantation the general averages, taken as a whole, are largest in West Java and and smallest in Central Java, but the differences here between the three provinces are relatively smaller than in the case of the expenditures for food. For further particulars about the amounts of food, one is referred to the chapter about the nutritive value of the menu.

3. The Price of the Specified Food Articles

In Tables 214 through 217 the price per kilogram is given for the specified food articles. This has been figured by dividing the number of kilograms consumed by the amount spent for them (including the value of the consumption articles received in kind). Table 218 gives the prices which were registered from the test purchases. The following table gives a summary of these tables.

.....Table on page 102.

In addition to the general averages obtained above, it also appears clear from the figures of the individual plantations that the family groups living on the plantation often pay more for the purchase of certain articles of food (pounded rice, pounded corn, fresh cassava, ontjom, tempe, tahu, coconut oil, and salt) than do those families who are living off the plantation. In both categories there are only minor differences between the various work groups with regard to the purchase price. Wherever these differences are more than slight they concern quality differences (i.e., for tea), and, of course, there are always district price differences, the skill of the merchant, the purchase for cash or credit, the amounts purchased at one time, etc. which also play a role, just as everywhere else in the world. Naturally one must also take account of the fact that the prices often varied greatly in the 25 investigations which were conducted (see also Tables 214 through 217), while the significance of the consumption of a particular article in relation to the total consumption varied from one family group to another within a single investigation. From Tables 214 through 217 it appears that as regards the specified food articles in general the highest price was paid in West Java and the lowest in Central Java. Only in the case of tea was the price noticeably lower in West Java, but this was principally due to consumption of the much cheaper green tea. Further we notice that in East Java,

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THE PRICE OF THE SPECIFIED FOOD ARTICLES

Specification of the food	Average price per kilogram in cents of the food articles consumed by the families which were investigated							The average price per kilogram in cents according to the test purchases
	Living on the plantation			Living off the plantation				
	field	factory	sup. &sk.	field	factory	sup. &sk.	tanis	
salted teri fish.....	17.3	18.4	19.0	17.2	18.6	18.3	21.3	23.7
ikan asin peda.....	26.1	25.6	24.3	26.6	21.4	21.8	26.5	23.8
ikan asin tawes (bader)	27.7	27.1	27.9	26.1	21.2	20.5	27.6	23.9
ikan asin klotok.....	23.5	26.8	26.3	23.0	24.6	23.6	21.8	22.6
husked rice..	8.2	8.6	8.5	8.1	8.8	8.7	8.3	8.3
pounded rice.	7.7	7.4	8.0	6.6	6.8	7.0	6.8	6.9
pounded corn.	6.6	6.3	5.6	5.2	5.6	5.0	4.3	3.5
fresh cassava	2.0	2.0	2.5	0.8	1.7	1.5	1.0	1.0
dried cassava	3.7	2.8	2.8	2.8	2.9	3.3	2.6	2.1
white sugar..	12.9	13.8	14.1	13.3	13.5	13.4	12.7	14.2
brown sugar..	9.0	7.1	8.4	9.6	8.0	8.4	8.0	10.2
ontjom.....	14.6	13.3	12.6	10.6	-	-	12.3	12.0
fermented soyabean cakes	7.2	7.7	7.3	5.9	6.1	6.0	5.8	6.6
soyabean cakes	14.5	9.5	11.4	8.8	6.4	6.9	8.6	7.9
coconut meat.	4.8	5.3	4.6	4.4	5.2	5.4	3.9	4.9
coconut oil..	18.4	18.2	16.2	15.8	14.6	13.5	14.4	15.1
tea.....	39.5	36.7	48.3	36.3	58.2	60.3	48.9	44.3
coffee.....	30.0	24.9	27.3	28.2	22.5	25.9	20.2	30.3
salt.....	17.3	16.5	15.9	15.8	15.2	14.1	15.7	16.1

where such large amounts of corn are consumed, this commodity is more expensive than in West and especially than in Central Java. Fresh cassava is too expensive especially among the families living on the plantations; this is due to the fact that the price here listed also pertains to the foods prepared from cassava; namely tape. There were also sometimes noticeable price variations among the other specified food articles, but one must remember that the prices which have been figured here are based on expenditures of no more than a few cents per month per family (see Tables 166 through 177). Furthermore the consumed articles were not always obtained in the most advantageous manner. For example on the plantation M. J. su. (2a&2b) during the second investigations, many coconuts containing on the average of from 350 to 400 grams of coconut meat were sold for one cent apiece or less; yet these same people when buying coconut meat at the markets and other places where this product is sold would often pay one cent for 100 to 150 grams of coconut meat. In another instance no less than fif-

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teen cents was figured for a credit purchase of 690 grams of rice.

If one compares the prices paid by the investigated families for the consumer articles with those paid in the test purchases, then there appears to be a high degree of correlation as was to be expected. The only great discrepancies are in first instance a result of the fact that amounts purchased and amounts spent on the test purchases had no direct relationship to those which the population consumed and spent.

The test purchases of pounded corn, for example, were comparatively greater in West and Central Java where little corn is eaten, than in East Java where corn is a very important food. Another food article, ikan asin teri (salted teri fish), is eaten primarily in West Java, therefore the test purchases of this type of fish in the other provinces were relatively greater.

As a result of this the average price of the test purchases for corn came out much lower than the average price of the corn which was consumed, since this product was more expensive in East Java. On the other hand, the test purchases for ikan asin teri, which happens to be cheaper in West Java than in the other provinces, gave a higher average price than the average price paid by the consumers for this product.

The test purchases were not further subdivided. A division into their place of origin (i.e., test purchases made on or off the plantation) has little value in a comparison of the prices of consumer goods since families living on the plantation make purchases off the plantation and vice versa. Furthermore as we have already seen, the place (i.e., on markets or in stores) and manner (i.e., on credit or for cash, by men or by women) of purchase play an important part in this. In general it can be said that on the average higher prices are paid on the plantation than off, while purchases on markets where supply and demand play a greater part than elsewhere are often more advantageous than those made in stores where furthermore the choice is more limited. As an aside it can be reported here that women seem often to purchase at less cost than men.

C. The Nutritive Value of the Menu

1. Figuring the Nutritive Value

In order to obtain a better insight into the matter of food the nutritive value was figured of the food which was consumed by the families which were investigated. This was done in accordance with the method of the Peoples' Nutritional Institute which established conversion figures for certain groups of food products so that the most significant nutritive units (i.e., caloric value, albumin content, fat content, carbohydrate content, and vitamin A and B_1 content) could be easily figured. (1) These conversion

(1) Engineer H. G. Koefoed, Dr. S. Postmus and Dr. A. G. van Veen, "The Understanding of Menu-Investigation Data, I - the Nutritive Value and the Types of Food," Geneeskundig Tijdschrift voor Nederlandsch-Indië (Medical Magazine for Netherlands India), no. 21, Vol. 79, 1939, or Landbouw (Agriculture), XV, 1939, (In Dutch).

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figures were derived from a large number of analyses which were conducted at the Laboratory for Chemical Investigation at Buitenzorg (Bogor) and at the Chemical Division of the Eykman Institute in Batavia (Djakarta). The grouping of the food products was based on the following criteria:

1. the food products of such nutritive value that they can more or less replace each other were in so far as possible included in one group;
2. the overall plan for the groupings must be of such a nature that those food products which have not yet been analyzed can be placed within a particular group on the basis of their location, origin and use;
3. the groupings must in so far as possible take account of groupings followed on other occasions so that comparisons of the results obtained here with other investigations may be expedited.

The unification of various food products in groups and the determination of conversion figures for those groups as a whole is done in order to simplify the process of figuring the nutritive value of the menu within the permitted bounds of exactitude. For food comaprisons between various districts--for which these calculations are in first instance intended--this method has appeared to be the most useful (see the previously mentioned publication of the Peoples' Nutritional Institute).

Table 219 indicates the manner in which the various food products were grouped and which conversion figures were employed in figuring the nutritive value.

Just as the consumer expenditures are expressed in figures per family and per person, so also the nutritive value of the menu is figured per family and per person. For purposes of analyses the figures for the family are given per day and not per month. The shortcomings which are inherent in figures per family (uneven size of families) as well as per person (unequal day-persons), have already been fully explained in the beginning of this chapter.

2. The Amount of Food Consumed

In Tables 220 through 235 the consumed quantities of food have been divided into the fourteen groups into which the food products were in first instance divided in order to figure the nutritive value. Distinction was made here between the normal day's food (Tables 220 through 227) and the feast days (Tables 228 through 235). The total amount consumed is finally united in Tables 236 and 237.

A summary of the general averages per person per day (the figures per family per month are omitted here for the sake of brevity) are given below.

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THE AMOUNT OF FOOD CONSUMED

Division of the food into fourteen groups	Per person per day in grams						
	Normal day's food						
	Living on plantation			Living off plantation			tanis
	field labor-ers	fac-tory labor-ers	superv.& skilled labor-ers	field labor-ers	fac-tory labor-ers	superv.& skilled labor-ers	
Meat and meat products.....	3	5	18	1	2	11	1
Fish and fish products.....	21	23	24	8	10	18	9
Other animal foods.....	0	0	3	0	0	2	0
Grains.....	451	433	412	280	281	346	305
Tubers.....	38	48	29	63	32	34	59
Various flours and articles made from flour.....	5	6	9	13	10	8	8
Sugars.....	17	23	36	5	11	27	9
Albumin and fat sources..	38	39	73	20	51	80	30
Vegetables...	62	36	87	89	89	112	83
Fruits.....	21	27	36	4	8	22	6
Tea and coffee.....	5	7	12	2	3	8	3
Salt and vinegar.....	8	6	8	6	4	7	6
Spices.....	3	2	4	3	12	13	3
Completely prepared dishes.....	69	134	85	16	62	79	9
Total.....	743	789	837	510	575	766	530

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THE AMOUNT OF FOOD CONSUMED (cont.)

Division of the food into fourteen groups	Per person per day in grams						
	Feast days						
	Living on plantation			Living off plantation			tanis
	field laborers	factory laborers	superv.& skilled laborers	field laborers	factory laborers	superv.& skilled laborers	
Meat and meat products.....	2	1	3	1	1	4	1
Fish and fish products.....	0	0	0	0	0	1	0
Other animal foods.....	0	0	0	0	0	0	0
Grains.....	7	9	15	16	13	42	17
Tubers.....	0	1	1	0	0	0	0
Various flours and articles made from flour.....	0	0	0	0	1	1	0
Sugars.....	0	1	2	0	1	3	1
Albumin and fat sources..	1	2	3	4	4	10	5
Vegetables...	1	1	4	3	3	11	3
Fruits.....	1	0	2	1	2	2	2
Tea and coffee.....	0	0	0	0	0	1	0
Salt and vinegar.....	0	0	0	0	0	1	0
Spices.....	0	0	0	0	0	1	0
Completely prepared dishes.....	0	0	0	0	0	0	0
Total.....	13	16	31	27	25	78	31

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THE AMOUNT OF FOOD CONSUMED (cont.)

Division of the food into fourteen groups	Per person per day in grams						
	Total						
	Living on plantation			Living off plantation			tanis
	field labor-ers	fac-tory labor-ers	superv.& skilled labor-ers	field labor-ers	fac-tory labor-ers	superv.& skilled labor-ers	
Meat and meat products.....	5	6	21	2	3	15	2
Fish and fish products.....	21	23	24	8	10	19	9
Other animal foods.....	0	0	3	0	0	2	0
Grains.....	458	442	427	296	294	388	322
Tubers.....	38	49	30	63	32	34	59
Various flours and articles made from flour.....	5	6	9	13	11	9	8
Sugars.....	17	24	38	5	12	30	10
Albumin and fat sources..	39	41	76	24	55	90	35
Vegetables...	63	37	91	92	92	123	86
Fruits.....	22	27	38	5	10	24	8
Tea and coffee.....	5	7	12	2	3	9	3
Salt and vinegar.....	8	6	8	6	4	8	6
Spices.....	3	2	4	3	12	14	3
Completely prepared dishes.....	69	134	85	16	62	79	9
Total.....	756	805	868	537	600	844	561

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The quantity of food which was consumed on a feast given by one of the families under investigation was figured as part of the normal consumption of this family. The guests who were present were not taken into account. Thus it has been assumed that the quantity of goods consumed by guests at the above mentioned feasts is equal to that which the family in question consumed at the feasts of others. This method was also employed by other food investigations (see among others the Koetowinangoen Report), because the quantity of food consumed at the feasts of others could in most instances not be established since these other families fell outside the direct investigation.

From the above table it appears that the consumption of "meat and meat products," "albumin and fat sources," "sugar," and to a lesser extent also that of "fruits" and "tea and coffee," increases in all types of families with increased prosperity; the same has appeared already in the expenditures for these various groups. Moreover we see an increased "grain" consumption with increased prosperity for the families living off the plantation; these families also used more vegetables but less fruit than those families living on the plantation. Taking all families together, not less than 60 to 70% of the weight of the not-further-specified food products (see Tables 206 through 213) consisted of "vegetables" and "completely prepared dishes;" these subgroups usually followed directly after "grains" in quantitative significance. Among the family groups living on the plantation the feasts are only 2 to 4% in weight of the normal food and are in an absolute sense of less significance here than among those families living off the plantation even though in this latter group the feasts are only 4 to 10% in weight of the normal food. In composition they differ from the normal food through a greater amount of "meat and meat products" and "albumin and fat sources." From Tables 220 through 235 it appears that in West Java, where the consumption of grains (almost exclusively rice) dominates to a very large degree, fewer "tubers," "albumin and fat sources," "vegetables," and "completely prepared dishes" were eaten than in Central and especially than in East Java. As we have already noted, the importance of the feasts was greatest in Central Java and least in West Java.

3. The Caloric Value of the Food

Tables 238 and 239 give a plantation by plantation summary of the caloric value of the food per family and per person per day. A condensation of the per person per day general averages is given below.

.....Table on page 109.

Only the figures per person per day are included in the above table because they are the most important for determining the nutritive value. On the average the caloric value of the food (including feasts) per person per day for the field laborers, factory laborers and supervisors and skilled laborers living on the plantation was 53, 44 and 9% higher respectively than for similar workers living off the plantation. In both groups it rose with increased prosperity, among those living off the plantation to a

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THE CALORIC VALUE OF THE FOOD

Division of the food	Average number of calories per person per day						
	Living on plantation			Living off plantation			tanis
	field laborers	factory laborers	superv.& skilled laborers	field laborers	factory laborers	superv.& skilled laborers	
Normal food..	1928	1972	2054	1209	1333	1777	1307
Feasts.....	35	45	78	74	66	207	84
Total.....	1964	2017	2132	1283	1399	1983	1391

greater degree than among those living on the plantation. Among the tani families the caloric value of the food per person per day was on the average slightly lower than that of the factory laborer families living off the plantation, but it was about 10% higher than among the field laborer families living off the plantation.

Grains, especially rice, play a very important part in the calory provision. No less than 70 to 80% of the total amount of calories which the food represents, was derived from grains. Of that amount rice alone (exclusive of rice used in "completely prepared dishes") accounted for 75 to 95% (88 to 97% among families on the plantation, 76 to 93% among families off the plantation) of the total.

It was noticeable for both families living off as well as on the plantation that with increased prosperity the share of grains in the calory provision decreased significantly, but at the same time the significance of rice rose within the "grain" group. This forms an indication that the food becomes more varied as prosperity increases and that preference is given to the more expensive dietary mainstay, rice.

.....Table on page 110.

From Table 239 it appears that within one and the same family group the variations in the caloric value of the food per person per day, is generally much larger for those living off the plantation than for those living on the plantation. Especially among the field laborers living off the plantation the figures varied greatly (from 658 to 2238 calories per person per day). The great difference in caloric value of the food per person per day between the field laborers living off the plantation in West Java on the one hand and that of similar situated persons in East and especially in Central Java on the other was also striking. In the first named province it was no less than 40 to 90% higher. In general the caloric value of the food per person per day seems to increase in proportion to the consumption expenditures as long as this latter does not exceed about ten florins per family per month (see Graph 27).

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THE IMPORTANCE OF GRAINS AND RICE IN CALORY PROVISION (1)

	Living on plantation			Living off plantation			tanis
	field laborers	factory laborers	superv.& skilled laborers	field laborers	factory laborers	superv.& skilled laborers	
Number of calories from grains expressed in % of the total caloric value of the food..	79	74	68	78	71	66	79
Number of calories from rice in % of the amount of calories from grains.....	88	93	97	81	88	93	76

(1) Excluding feasts, which have an abnormal composition.

The differences which have been noted above per person per day, appear on a larger scale in the figures per family per day. Only in this last case the differences between the wage earner families living on the plantation and those living off the plantation have become somewhat less, while those between the groups of field laborers, factory laborers, and supervisors and skilled laborers have become somewhat greater.

4. The Albumin Consumption

In Tables 240 through 245 the consumption of albumin per family and per person per day has been noted. A distinction has been made here between animal and vegetable albumin. A summary of the per person per day general averages gives the following picture.

.....Table on page 111.

The per person per day consumption of albumin (including feasts) was 61, 43 and 8% higher respectively for the field laborers, factory laborers, and supervisors and skilled laborers living on the plantation than for persons of similar occupations living off the plantation. Among this latter group the consumption of animal and vegetable albumin rose sharply as the prosperity increased, while among the family groups living on the plantation increased prosperity seemed to result only in a slight rise in the consumption of animal albumin. As regards the entire albumin consumption, the consumption of animal albumin was of greater significance among the wage earner families living on the plantation

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THE ALBUMIN CONSUMPTION

	Per person per day in grams						
	Living on plantation			Living off plantation			tanis
	field laborers	factory laborers	superv.& skilled laborers	field laborers	factory laborers	superv.& skilled laborers	
Animal albumin							
Normal food..	8	9	11	3	4	7	3
Feasts.....	0	0	1	0	0	1	0
Total animal albumin.....	8	9	12	3	4	8	3
Vegetable albumin							
Normal food..	43	43	44	27	31	40	30
Feasts.....	1	1	2	2	1	4	2
Total vegetable albumin.....	44	44	46	29	32	44	32
Total albumin	52	53	58	32	36	52	35

(15 to 20%) than among those living off the plantation (10 to 15%). Due to a somewhat larger consumption of vegetable albumin the per person per day albumin consumption in the tani families was somewhat larger than that of the field laborer families living off the plantation.

Although grains also form a dominant part in the albumin supply, as appears from the table below, their significance in this regard is not as great as in the calory provision.

.....Table on page 112.

Among all family groups the relative importance of grains as a source of albumin varies from 55 to 71%. These percentages decrease as prosperity increases both for groups living on and for groups living off the plantation. In addition "fish and fish products" (primarily dried/salted fish) and "albumin and fat sources" (primarily fermented products such as tempe and ontjom) are of significance in supplying albumin. The former subgroup is more important among the families living on the plantation, the latter

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THE LEADING SOURCES OF ALBUMIN

Subgroup	Average importance in % of the following subgroups in the provision of albumin (1)						
	Living on plantation			Living off plantation			tanis
	field laborers	factory laborers	superv.& skilled laborers	field laborers	factory laborers	superv.& skilled laborers	
Grains.....	67	64	56	70	61	55	71
Fish and fish products.....	14	15	13	9	9	10	8
Albumin and fat sources..	8	8	13	8	16	18	10
Total.....	89	87	82	87	86	83	89

(1) Excluding feasts which have an abnormal composition.

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subgroup among those living off the plantation. It is notable that the consumption of "albumin and fat sources" increases sharply with increased prosperity while the importance of "fish and fish products" in supplying albumin remains fairly constant. The relative rise in the consumption of animal albumin which, as noted above, accompanied a rise in prosperity is entirely attributable to an increased consumption of "meat and meat products" and "other animal foods." It can be noted in passing that "fish and fish products" play a more important part in the albumin provision of West Java than in Central and East Java (respective percentages are 20 for West Java as opposed to 10 to 15 for Central and East Java). In the latter named provinces relatively more albumin was obtained from "albumin and fat sources" (namely 10 to 20% as opposed to about 5%).

From Tables 240 through 245 it appears that the variations in caloric value which were noted among the statistics for the individual plantations also held for the albumin consumption.

5. Fat Consumption

Tables 246 and 247 give a summary of the fat consumption per family and per person per day. The following general averages were obtained in the per person per day analysis.

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FAT CONSUMPTION

	Per person per day in grams						
	Living on plantation			Living off plantation			tanis
	field laborers	factory laborers	superv.& skilled laborers	field laborers	factory laborers	superv.& skilled laborers	
Normal food..	22	20	34	12	21	33	17
Feasts.....	1	1	2	2	2	5	2
Total.....	23	21	36	14	23	38	19

From the above table it appears that in the groups of factory laborers and supervisors and skilled laborers, living on or off the plantation had practically no influence upon the fat consumption. The field laborers living on the plantation used about 1.5 times as much fat as those living off the plantation.

Both in family groups living on and off the plantation, but especially among the latter, the individual daily consumption of fat increased with increased prosperity. It further appears that feasts are more significant in fat provision than in either calory or albumin provision. This was primarily due to a relatively greater consumption of coconut oil. Rice, corn, coconut and coconut oil were of leading significance in providing fat. This is shown by the following table.

LEADING SOURCES OF FAT

Article	Average importance in % of the food articles listed below in providing fat (1)						
	Living on plantation			Living off plantation			tanis
	field laborers	factory laborers	superv.& skilled laborers	field laborers	factory laborers	superv.& skilled laborers	
Rice.....	18	20	12	18	12	10	14
Corn.....	12	6	2	21	8	3	23
Coconut meat.	27	21	28	29	33	25	31
Coconut oil..	25	34	40	16	30	45	20
Total.....	83	80	82	85	83	83	87

(1) Excluding feasts which have an abnormal composition.

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LEADING SOURCES OF FAT (cont.)

Article	Average importance in % of the food articles listed below in providing fat (1)			
	West Java	Central Java	East Java	JAVA
Rice.....	42	16	10	15
Corn.....	2	4	17	13
Coconut meat.	6	37	29	28
Coconut oil..	33	24	29	28
Total.....	83	81	85	84

(1) Exluding feasts which have an abnormal composition.

Among all family groups rice, corn, coconut meat and coconut oil accounted for 80% or more of the total fat consumption. For families both on and off the plantation the share of coconut oil increased and that of grains decreased as prosperity increased.

The above named four food products also accounted for over 80% of the fat consumption in each of the three provinces. Relatively speaking corn and coconut meat were of slight significance in West Java and corn was of slight significance in Central Java as sources of fat.

From Table 247 it appears that in West Java, where the families who were investigated were generally the most prosperous, much less fat was used per person per day than in Central and especially in East Java. On the individual plantations (the figures for the plantations often varied greatly within one and the same occupational category) the fat consumption generally rose rather sharply as prosperity increased.

6. Carbohydrate Consumption

Tables 248 and 249 register the amounts of carbohydrates used per family and per person per day. A summary of the general averages of the per person per day amounts is given in the following table.

.....Table on page 115.

The per person per day consumption of carbohydrates was 51, 53 and 10% higher respectively for the field laborers, factory laborers and supervisors and skilled laborers living on the plantation than for similar occupational groups living off the plantation.

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CARBOHYDRATE CONSUMPTION

	Per person per day in grams						
	Living on plantation			Living off plantation			tanis
	field labor-ers	fac-tory labor-ers	superv.& skilled labor-ers	field labor-ers	fac-tory labor-ers	superv.& skilled labor-ers	
Normal food..	383	395	381	244	252	322	257
Feasts.....	6	8	14	13	11	36	14
Total.....	389	403	395	257	263	358	271

While the per person per day consumption for the groups living on the plantation varied little, we notice a sharp rise in consumption among the groups living off the plantation as prosperity increases.

The part that feasts played in the carbohydrate consumption was 2 to 4% among the family groups living on the plantation and 5 to 10% among those living off the plantation. As shown in the following table, the great bulk of the consumed carbohydrates was derived from grains.

THE IMPORTANCE OF GRAINS IN THE CARBOHYDRATE CONSUMPTION

	Number of grams of carbohydrates derived from grains expressed in % of the total number of grams of carbohydrates consumed (1)						
	Living on plantation			Living off plantation			tanis
	field labor-ers	fac-tory labor-ers	superv.& skilled labor-ers	field labor-ers	fac-tory labor-ers	superv.& skilled labor-ers	
Grains.....	87	82	81	84	82	80	86

(1) Excluding feasts which have an abnormal composition.

Among all family groups 80% or more of the total carbohydrate consumption was derived from grains (in West Java the share of grains among the various family groups in carbohydrate provision was no less than 93 to 98%). A slight diminution in this percentage was observable for wage earner families living both on and off the plantation as prosperity increased. Table 249 shows that among the wage earner families living on the various plantations an almost

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equal amount of carbohydrate was consumed. The tani families used on the average slightly more carbohydrates than the factory laborer families living off the plantation. This is primarily due to the fact that in West Java where the daily individual consumption of carbohydrates is much larger than in the remaining provinces, tanis were investigated, but factory laborers living off the plantation were not.

7. Vitamin A Consumption

Tables 250 and 251 show the daily consumption per family and per person of Vitamin A. The following table gives the general averages of the per person per day consumption.

VITAMIN A CONSUMPTION

	Per person per day in International Units						
	Living on plantation			Living off plantation			tanis
	field laborers	factory laborers	superv.& skilled laborers	field laborers	factory laborers	superv.& skilled laborers	
Normal food..	2233	1470	3237	2286	1827	2762	2600
Feasts.....	30	15	68	59	85	250	114
Total.....	2263	1485	3306	2345	1911	3012	2714

Only relative value must be attached to the figures on vitamin consumption for the following two reasons: (1)

1. the vitamin content of a particular product can vary (for example, the vitamin content of banana; moreover, the vitamin C content fluctuates greatly under the influence of climate, time of year, etc.);
2. the preparation can cause differences in the vitamin content (for instance the vitamin B_1 of rice which has been transported great distances is easily soluable in water; also vitamin B_1 can pass into the cooking water if boiled for a long time).

Realizing that the above figures give no more than a general impression of the vitamin A consumption, this consumption per person per day varied very little among similar groups of wage earners living on and off the plantation. Although consumption was greatest among the supervisors and skilled laborers, the figures were not directly related to the prosperity. The following table shows the importance of fruits and vegetables in vitamin A provision.

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(1) See also Nutrition Tables, S. J. E. Pannekoek-Westenburg, Engineer J. A. Nijholt and Dr. A. G. van Veen, Batavia, 1940. (In Dutch)

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THE IMPORTANCE OF FRUITS AND VEGETABLES IN VITAMIN A PROVISION

	The amount of vitamin A from fruits and vegetables in % of the total amount consumed (1)						
	Living on plantation			Living off plantation			tanis
	field laborers	factory laborers	superv.& skilled laborers	field laborers	factory laborers	superv.& skilled laborers	
Vegetables...	72	39	70	85	86	77	85
Fruits.....	17	32	20	3	7	15	4
Total.....	89	71	90	88	93	92	89

(1) Excluding feasts which have an abnormal composition.

With the exception of the factory laborers living on the plantation the amount of vitamin A derived from fruits and vegetables was about 90% of the total amount consumed. This percentage was much lower among the factory laborers living on the plantation (ca. 70%) because in West Java these families consumed many more bataten (sweet potatoes) which are rich in vitamin A and which were included in the subgroup "tubers."

Among family groups living both on and off the plantation vegetables were a much more important source of vitamin A than were fruits which were really only of any significance among the families living on the plantation.

According to Table 251 there appear to be great variations in vitamin A consumption among wage earner families on the various plantations which actually had no relationship to the size of the consumption expenditures. Finally the vitamin A consumption was on the average much lower in West Java than in Central and East Java.

8. Vitamin B_1 Consumption

The amounts of vitamin B_1 consumed daily per family and per person are given in Tables 252 and 253. The following general averages were obtained on the per person per day consumption.

.....Table on page 118.

The vitamin B_1 consumption per person per day was higher for persons living on the plantation; this was especially true for the field and factory laborers. It is striking that the vitamin B_1 consumption of the supervisors and skilled laborers living off the plantation is much higher than that of the field and factory laborers

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VITAMIN B_1 CONSUMPTION

	Per person per day in International Units (1)						
	Living on plantation			Living off plantation			tanis
	field laborers	factory laborers	superv.& skilled laborers	field laborers	factory laborers	superv.& skilled laborers	
Normal food..	276	274	285	174	180	237	192
Feasts.....	7	7	12	11	9	30	12
Total.....	283	281	296	185	189	267	204

(1) Excluding feasts which have an abnormal composition.

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living off the plantation.

The following table shows that vitamin B_1 is primarily derived from grains.

THE IMPORTANCE OF GRAINS IN VITAMIN B_1 PROVISION

	The number of International Units of vitamin B_1 from grains expressed in % of the total number of International Units of vitamin B_1 consumed						
	Living on plantation			Living off plantation			tanis
	field laborers	factory laborers	superv.& skilled laborers	field laborers	factory laborers	superv.& skilled laborers	
Grains.....	83	80	73	83	80	74	82

The share of grain in the vitamin B_1 provision varies from 73 to 83% among the various family groups. For families living on as well as off the plantation this percentage decreased as prosperity increased.

From Table 253 it appears that the vitamin B_1 consumption per person per day increased with increased prosperity for the Central and East Javanese families living off the plantation. In the general averages the differences between field laborers, factory laborers, and tanis living off the plantation have disappeared because in West Java, where vitamin B_1 consumption was high, field laborers and tanis living off the plantation were investigated, but not factory laborers.

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9. The Importance of Albumins, Fats and Carbohydrates in the Calory Provision

Tables 254 through 256 consider the importance of albumins, fats and carbohydrates in the calory provision. The following general averages were obtained.

THE IMPORTANCE OF ALBUMINS, FATS AND CARBOHYDRATES IN THE CALORY PROVISION

	Number of calories provided by the food components listed below expressed in % of the total caloric value of the food						
	Living on plantation			Living off plantation			tanis
	field laborers	factory laborers	superv.& skilled laborers	field laborers	factory laborers	superv.& skilled laborers	
Albumins.....	11	10	11	10	10	11	10
Fats.....	10	10	15	10	14	17	12
Carbohydrates	79	80	74	80	75	72	78
Total.....	100	100	100	100	100	100	100

Each gram of albumin, fat and carbohydrate gives respectively 4,9 and 4 calories. Among all family groups carbohydrates accounted for 70 to 80% of the total caloric value of the food. For family groups living both on and off the plantation this percentage declined as prosperity increased. This decline was accompanied by an equally great increase in the share of fats in the calory provision, namely from 10 to 17%. Albumin provided about 10% of the calories for all family groups.

In general the above is also true for the statistics obtained from the individual plantations (Tables 254 through 256). Only in West Java the share of the carbohydrates in calory provision was greater and that of fats smaller than in Central and especially than in East Java. The share of albumin in the calory provision was remarkably constant among the individual plantations, regardless of whether it referred to the normal food or the feasts. Fats were of greater importance at feasts than in the normal food, which points to the fact that fat consumption becomes more important as the expense of the food increases.

10. The Expensiveness of the Food

Tables 257 through 262 give the amounts of calories, albumins, fats, carbohydrates, vitamin A and vitamin B_1 which were received for each cent spent on food. A summary of the general averages follows.

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THE EXPENSIVENESS OF THE FOOD

	Average amounts for each cent spent on food						
	Living on plantation			Living off plantation			tanis
	field laborers	factory laborers	superv.& skilled laborers	field laborers	factory laborers	superv.& skilled laborers	
Number of calories.....	326	316	277	418	365	321	427
Number of grams of albumin.....	9	8	7	11	10	9	11
Number of grams of fat.	4	3	5	5	6	6	6
Number of grams of carbohydrate.	64	63	51	84	69	58	83
Number of International Units of vitamin A....	375	233	429	763	499	488	833
Number of International Units of vitamin B_1...	47	44	38	60	49	43	63

The first thing that is noticed is that the amount of food which is on the average obtained for one cent contains fewer calories, albumins, fats, carbohydrates, vitamins A and vitamins B_1 among the wage earner groups living on the plantations than among the corresponding groups living off the plantation. In judging these figures it must be borne in mind that factors such as digestibility, biological value (i.e., the extent to which a food component can be used in building up the organism), and the complementary value (for example, two albumins can complement each other in such a manner that when consumed together their total biological value is greater than if each had been consumed separately) can play an important part in the assimilation. (1) Even so, it can be accepted that as regards equal foods, the family groups living on the plantation paid more than their occupational equals living off the plantation in order to acquire the same nutritional value. For

(1) See also Nutrition Tables, S. J. E. Pannekoek-Westenburg, Engineer J. A. Nijholt and Dr. A. G. van Veen, Batavia, 1940. (In Dutch)

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both families living on and off the plantation the food became more "expensive" as the welfare of the family increased. On the one hand this was due to the fact that the less prosperous families substituted "cheaper" foods for "more expensive" foods while retaining approximately the same nutritional value (i.e., corn for rice), and on the other hand came about because the more prosperous groups began to consume proportionately more of the relatively "more expensive" side dishes (meat, white sugar, coconut oil, coffee, etc.). In addition there were certain price differences between one and the same food product which were naturally of some influence (this partly explains the differences between the groups living on and those living off the plantation, see also pages 101 and 102).

The above mentioned differences also come to the fore in the individual plantation statistics (Tables 257 through 262). Among the families living on the individual plantations the nutritional value obtained for each cent seemed to vary relatively little, but for the families living off the plantation this variation was oftentimes quite great. On the average, food, among this latter group was "more expensive" in West Java than in East and especially than in Central Java. Among the field laborers, factory laborers, and tanis, the "expensiveness" of the food at feasts was generally more than the normal food; among supervisors and skilled laborers, however, it was less. Just as with the normal food, the feasts of those living on the plantation had a "more expensive" composition than those of similar family groups living off the plantation. In the former group the amounts of food components which were obtained for a similar amount of money in the case of feast food, had no relationship to the prosperity of the family group.

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SUMMARY OF THE FINAL REPORT OF THE COOLIE BUDGET COMMISSION

"LIVING CONDITIONS OF PLANTATION WORKERS AND PEASANTS ON JAVA IN 1939-1940"

SUMMARY

1. INTRODUCTION

The fall of the prices of our export products in the years following 1929 caused such a sharp decline in the wages of indigenous laborers on the plantations that the government, in October 1936, ordered a policy of guarding these wages. The temporary boom at the end of 1936 and during the first half of 1937 did not actually have enough influence on the wage level and the questions, had the wages risen to a sufficient degree and also might the wages be called reasonable, could not be answered with any degree of certainty.

On December 23, 1938 the so-called Coolie Budget Commission was established as a step toward making it possible to answer these questions. Its mission was "the formulation of the bases for the standard budgets of Javanese plantation workers in the various plantation districts of Java." After an extensive preliminary investigation into the composition of the families and the family income among the worker families on different types of plantations, a series of detailed budget investigations was started in the second half of 1939. Gradually these came to include twenty plantation enterprises and totaled twenty-five investigations. A special personnel grouping for this purpose was included in the Central Statistical Office. It was known as the "Coolie Budget Investigation" department. It was charged with the secretarial responsibilities for the Coolie Budget Commission and with the formulation of reports and budget investigations. The first confidential report appeared February 1940, while the remaining reports were presented to the members of the Coolie Budget Commission between this date and March 1941. As a consequence of an intervening interim-recommendation concerning the results obtained on the first ten investigations (formulated in July 1940 and presented to the Directors of Justice and Economic Affairs in April 1941) it was decided to limit the activities of the Commission strictly to "the formulation of the bases for the standard budgets." The results of the twenty-five investigations as these appear in the report, must be regarded as the basic material for the formulation of the bases of the standard budgets which are to be established. All members of the Coolie Budget Commission concurred with the facts and with the manner in which the material was collected and broken down according to labor groups and within these groups according to degree of prosperity.

The Final Report concerning these twenty-five investigations which was called "Living Conditions of Plantation Workers and Peasants on Java in 1939-1940" was approved by the members of the Coolie Budget Commission in the course of December 1941.

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2. Purpose, Extent and Method of the Budget Investigation

The budget investigation was conducted on 18 plantation enterprises and 2 timber reserves on Java; namely, in West Java 1 rubber and 3 tea plantations, in Central Java 3 rubber, 1 tobacco, and 2 sugar plantations, and in East Java 3 coffee, 2 rubber, 1 tobacco, 2 sugar plantations and 2 timber reserves. Although in comparison to the total number of plantations and timber reserves on Java the number investigated is small, the enterprises which were investigated are located in the chief plantation centers of Java. On 1 tobacco and 3 sugar plantations the investigation was conducted in a period of little work opportunity as well as in a period of much work opportunity, while one of the rubber plantations was investigated in the harvest time as well as in the "meager" time. Thus, as previously stated, the Coolie Budget Investigation consisted of 25 investigations all of which occurred between July 1939 and June 1940.

The plantation laborers were divided into three large groups according to the nature of their work: 1. field laborers, 2. factory laborers and 3. supervisors and skilled laborers, while in order to be able to make comparisons with local living conditions, 22 of the 25 investigations also included budget investigations of tani (1) families. The laborers living on the plantation were always kept separate from those living off the plantation. The Coolie Budget Investigation included a total of 1015 field laborer families, 253 factory laborer families, 287 supervisor and skilled laborer families, and 390 tani families, of which 319 field laborer families, 106 factory laborer families, and 143 supervisor and skilled laborer families were housed on the plantation. As a point of interest it might be noted that a total of 277,000 day-persons were included in the budget investigation.

The statistics which were of importance to the Coolie Budget Investigation were recorded for each family daily during 30 consecutive days.

3. The Families, Their Housing and Land and Livestock Possessions

The families living on the plantation (field laborer, factory laborer, and supervisor and skilled laborer) had an average size respectively of 3.70, 4.07 and 4.52 persons. The field laborers, factory laborers, supervisors and skilled laborers, and tanis living off the plantation had families with a respective average of 4.85, 5.02, 5.50 and 5.26 persons. The last four groups are larger due primarily to a larger number of children per family.

This must be weighed against the fact, however, that a greater number of family members of those families living on the plantation are employed in plantation work. The total incomes of the families living on the plantation were on the average larger than those for families living off the plantation. Among the three laborer groups

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(1) See translator's footnote on page 8.

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living on the plantation the number of wage earners respectively was 2.0, 2.0 and 1.7. Off the plantation these amounts were only 1.4, 1.2 and 1.2. The number of family members carrying on agricultural tasks has not been included in any of these cases.

Practically all persons working on the plantation were of normal working age (16 through 60 years).

The age was determined and the height and weight was established for all persons in the investigated families. The tani families which were investigated seemed in general to be quite a bit older than the wage earner families. The family heads in the laborer families were on the average of 6 to 10 years older than their spouses.

From the measurements it appeared that men and women grew at approximately the same rate up to their 15th to 18th year; at maturity (for men reached between their 25th and 30th year and for women between their 20th and 25th year) the men had an average height of 158 centimeters and an average weight of 49 kilograms, this was about 10-12 centimeters taller and 5-9 kilograms heavier than the women.

Despite ethnic differences (Sundanese, Javanese, and Madurese), the height in the 26 through 45 year age category (in which category the influences of youth and old age on height and weight can be regarded as non-operative) varied only very slightly for both the men and the women on the various plantations.

The differences with regard to weight were greater. Here it was noted that the weights in West Java (50.6 kilograms) were the largest, and those in Central Java (47.9 kilograms) were the smallest. The men and women living on the plantation were on the average slightly shorter and slightly heavier than those living off the plantation. The tallest and heaviest persons were encountered most often among the supervisors and skilled laborers, and the shortest and lightest among the field laborers. One does well to remember that the choice of the plantation may have been of influence in the two last mentioned cases.

The families living off the plantation resided in more than 90% of the instances in their own home. House rent was only paid in a most exceptional instance. In general the houses off the plantation were larger but less solid and less well kept than those on the plantation. The lower paid laborer groups on the plantation were often housed in multi-family dwellings.

Various social and hygenic arrangements were especially encountered on those plantations which either entirely or partially had to provide housing for their laboring personnel.

Land ownership occurred only rarely among families living on the plantation. These families did, however, often enjoy the fruits of the garden-plots located in the plantation housing areas. Of the families living off the plantation no less than two thirds owned land. The average amount of land owned by field laborers, factory

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laborers, and supervisors and skilled laborers respectively was 0.30, 0.28 and 0.28 hectares; that of the tani families 1.41 hectare. The differences in the yearly land tax (although this is not a very precise measure of the quality of the land owned) were in the same sequence as regards size. The tegalans (dry lands) and garden-plots were almost always worked and planted by the owner, the sawahs (flooded fields) were in large part in the owners' care. Occasional instances of renting (mostly to sugar and tobacco enterprises) and sharecropping (mostly in Central Java) were encountered. The coconut tree was the most important crop on the garden-plots of Central and East Java. In Central Java the garden-plots were the most intensively cultivated and best attended. The tani families owned several times as much livestock as the wage earner families. This latter group, if they lived on the plantation, owned little more than fowl.

4. Income and Expenditures

The per family per month incomes of the field laborers, factory laborers, and supervisors and skilled laborers living on the plantation was Fl. 8.81, 11.58 and 23.34 respectively as opposed to Fl. 5.23, 8.29 and 17.98 respectively for those living off the plantation. Thus on the average the wage earner families living on the plantation had markedly larger incomes. In both categories the incomes of the field laborers was about one third and those of the factory laborers about one half of the incomes of the supervisors and skilled laborers. Tanis had an average income of Fl. 6.77. With a few exceptions the wage earner families living on the plantation derived almost their entire income from the plantation. In the three worker groups the respective percentages were 91, 96 and 79. Even in the groups living off the plantation where the percentages were 58, 77 and 87, the wage incomes from the plantation were obviously of utmost importance. The share of the male heads of families in the total wage income was 60, 71 and 86% respectively for the field laborers, factory laborers, and supervisors and skilled laborers living on the plantation. Off the plantation the percentages for these three groups were 70, 86 and 94. In these latter groups the women and children work at agricultural pursuits for which they receive no wages.

5. Work and Wages

The number of days per month that the three worker groups living on the plantation spent working on the plantation were 24, 26 and 26 days respectively. The wives in each of these groups worked an additional 15, 16 and 6 days respectively, while the total average for the entire family was 48, 48 and 40 days respectively. The average number of hours worked per day averaged 9, 10 and 11 for the men in the three groups, and 8, 9 and 9 for the women.

From this it follows that each family on the plantation worked 40 to 48 days, or 400 to 450 hours per month.

In the worker groups living off the plantation the men worked 15, 22 and 26 days on the plantation respectively. It is evident

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that the factory laborers and supervisors feel more tied to the plantation than do the field laborers. The wives of these three groups living off the plantation worked only 4, 2 and 0 days on the plantation, and the whole family worked 26, 26 and 31 days.

The average number of hours worked per day averaged 8, 11 and 11 hours for the men and 7 and 11 for the women.

The families living off the plantation worked 26 to 31 days, or 200 to 350 hours per month on the plantation.

The share of the male head of the family in the total time worked on the plantation was 51, 57 and 67% for those living on the plantation, and 55, 81 and 82% for those living off the plantation.

The male wage earners of the normal working age (16 to 60 years) worked an average of about 85% of the total available days for working on the plantation. This amounts to no more than one free day per week, which takes no account of sickness and other days of forced rest. Only the field laborers living off the plantation were an exception to this rule. The number of days that this last mentioned group worked on their own lands however was not counted. Also, the women worked less on the plantation than the men.

The average number of work hours per work day was 8 for the field laborers and 10 to 11 for the factory laborers and supervisors and skilled laborers.

The men worked a longer day than the women. Also the work times for those workers working on a time basis are longer than those which the piece workers attempt to keep. The daily and hourly earnings of the three groups of workers vary greatly, and there is also a great difference in the earnings in the lowest two groups between those living on and those living off the plantation.

For the three worker groups living on the plantation the men earn an average of 20, 30 and 54 cents per day and 2.3, 3.0 and 5.1 cents per hour.

Off the plantation these figures become 13, 24 and 53 cents per day and 1.7, 2.0 and 4.6 cents per hour. The lowest averages were encountered in the sugar enterprises where the field laborers living off the plantation earned 1.1 cent per hour. The highest earnings for this same category of laborer was on the tea plantations where their earning was 2.9 cents per hour.

The wages of the women are lower than those of the men. For the two lowest groups the daily earnings are 15 cents each for those living on the plantation and 10 and 18 cents for those living off the plantation. The hourly earnings respectively are 1.8 and 1.5 cents on the plantation, and 1.3 and 1.8 cents off.

Through the manner of work (namely by contracting out as much of the work as possible) the wages paid by the plantations to the

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field laborers living off the plantation differed only slightly from prevailing wages in the surrounding villages where the wage level is usually very low because of a labor surplus. It is probably the operation of supply and demand which has led to the differences in this lowest paid group of plantation laborers. This is also influenced by the cost of living which is not the same for all parts of Java. Medical investigations have indicated that the very low wages are often accompanied by a poorer physical condition.

In the field laborer group the average daily and hourly earnings of the men was about 1.5 times that of the women.

Among the men the factory laborers earned about 1.5 times the amount earned by the field laborers, while the supervisors and skilled laborers earned 2 to 4 times the amount of the field laborers. The differences between the earnings of the female field laborers and the female factory laborers was very slight.

The average daily and hourly earnings of adolescents and children were markedly less than those of adults.

6. Consumption

Because the consumption expenditures of the investigated families (i.e., the total value of the consumption articles used during the investigation) were on the whole less subject to strong fluctuations than the incomes, and because the consumption expenditures therefore form a better basis for the actual standard of living, the investigation into the differences in standards of living was based on the consumption expenditure totals. This total is acquired by expressing the value of the consumption articles used during the period of investigation in monetary value. This was not difficult in so far as it concerned articles purchased for cash or bought on credit. For consumption articles acquired in kind the price was established on the basis of local prevailing prices in so far as this was possible.

The data of the budget investigation were assembled by consumption units, that is to say, per family. They are mostly expressed in terms of family per month. In order to minimize the differences in family size, the daily individual consumption has also been figured. This is obtained by dividing the total consumption by the sum total of the number of days that each individual has partaken in the consumption (= the number of day-persons), or, what amounts to about the same thing, the consumption per family member per day. This type of figuring has the disadvantage that each person is counted on an equal basis regardless of his significance in the amount consumed (sex, age, weight, degree of activity, etc. does not enter into this calculation). The breakdown of the consumption within the family can vary for every type of expenditure and cannot as yet be determined with any degree of exactness.

The consumption expenditures of the wage earner family groups living on the plantation were 883, 1048 and 1697 cents per family per month and 8.0, 8.5 and 12.5 cents per person per day respectively.

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These expenditures for similar groups living off the plantation were 549, 762 and 1612 cents per family per month and 3.8, 5.1 and 9.5 cents per person per day respectively. Thus the former are noticeably larger. The same phenomenon appeared with regard to the income of these worker groups. The tanis had somewhat larger consumption expenditures than the field laborers who lived off the plantation (666 cents per family per month and 4.3 cents per person per day). The consumption expenditures of the tanis and the field laborers living off the plantation were much larger in West Java than in East and especially than in Central Java.

The manner in which the consumed articles were acquired was carefully investigated. Among the field and factory laborers living on the plantation about a third and among the remaining worker groups about a half of the acquired consumption articles were bought for cash. The use of articles acquired in kind was of slight significance for all groups of wage earners living on the plantation, namely 3 to 6%. Among the wage earner groups living off the plantation articles acquired in kind formed 22, 11 and 7% of the consumption. One half the consumption expenditures among the tani families were cash, 8% were on credit, while 41% were received in kind (out of existing stocks or from harvests from their land).

Consumption expenditures were grouped in six expenditure-groups: I. Food; II. Fire, illumination and water; III. Clothing; IV. Housing; V. Luxury items and VI. Miscellaneous, each of which was further subdivided into groups and subgroups. In so far as possible this division took account of previously conducted investigations so that the results of the Coolie Budget Investigation might form a basis for comparison. Of the six expenditure-groups the one for "food" was the largest. The share of the food expenditures in the total consumption expenditures varied between 70 and 75% for the field and factory laborers, but was only 60% for both groups of supervisors and skilled laborers.

The expenditures "clothing," "housing" and especially "miscellaneous" are of slight significance for all worker groups. Within the expenditure-groups shifts in consumption expenditure occur as the prosperity of the family group increases. This occurs in the realm of food through a relative decline in the significance of the dietary mainstay. For example the share of grains (mainly rice) in the total food expenditures was 61, 56 and 46% respectively for the three groups of workers living on the plantation, and 66, 53 and 45% for the groups living off the plantation. The share of grains in the total cost of living was 45, 41 and 27% respectively for the former group, and 50, 38 and 27% respectively for the latter group; among the tanis this percentage was 46. The importance of the expenditures of the "more expensive" food products such as meat, white sugar, soyabean cakes (tempe), coconut oil, coffee, etc. tends to increase with increased prosperity. There is also definite tendency to replace "cheaper" dietary mainstays corn and cassava with the "more expensive" rice as prosperity increases, but this does not fully reflect the above mentioned decline in relative significance of the expenditures for the dietary mainstay. The expenditures for

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"fire, illumination and water" (6 to 9% (1)) concerned primarily firewood and oil, those for "clothing" (3 to 8% (1)) primarily purchase of articles of clothing, those for "luxury items" (5 to 9% (1)) primarily smoking articles, and those for "miscellaneous" (5 to 16% (1)) primarily feasts. The expenditures for "housing" were on the whole of little significance (1 to 4% (1)). Within the above mentioned expenditure-groups the relative importance of expenditures for oil (fire, illumination and water), smoking articles (luxury items), care of health and body, intellectual care and education, and transportation (miscellaneous) becomes greater as the prosperity of the family group increases. Since the expenditures for rice form such a significant part of the food expenditures it was relatively easy to be more specific about a large share of this particular category. Because of the great diversity of expenditures in the other categories a similar specification was not always possible.

The quantities of the articles which were consumed could not always be determined at the time a household was investigated since at that particular moment all or part of the articles had usually been used already. The determination of the quantities of these articles which could not be directly measured was done through the aid of test purchases (in the case of articles received in kind through the aid of test samples) which in so far as possible followed the customs of the district under investigation. From these test purchases, which in practice were far from simple, it appeared that the price of one and the same food article can vary greatly in various parts of Java. The highest prices were paid in West Java, the lowest in Central Java. Rice was about equally expensive in all areas.

The total quantity of food consumed per person per day, of which rice is on the average one half, is larger among the wage earners living on the plantation than among those living off the plantation.

The total food consumption (excluding feasts) is 743, 789 and 837 grams per day for the workers living on the plantation, and 510, 575 and 766 grams for similar groups living off the plantation.

Although the amounts consumed rise with increased prosperity for both groups, it is nonetheless striking that the per person per day consumption of rice is practically the same for the three types of workers living on the plantation (respectively 394, 402 and 392 grams)(this is exclusive of ketan and rice contained in rice candies and completely prepared dishes).

The nutritional value of the consumed quantities of food were analyzed as to calory content and quantities of albumin, fat, carbohydrate, vitamin A and vitamin B_1 in accordance with an established

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(1) This is the share of the respective expenditure-group within the total consumption expenditures of the investigated family groups.

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conversion method used by the Peoples' Nutritional Institute. In this calculation the amounts of food consumed at feasts which were given by families under investigation were regarded as food for this particular family. This is done on the assumption that the nutritional value of the food consumed by guests at the above mentioned feasts is approximately equal to the amount of food which the members of the particular family will consume at the feasts of others. At any rate this was not of great significance since the share of feasts in the total nutritional value of the food was on the average no more than 2 to 5% for families living on the plantation and 5 to 12% for families living off the plantation. With the exception of vitamin A for which the consumption varied little (1485 to 3306 International Units for families living on the plantation and 1911 to 3012 I.U. for families living off the plantation), the nutritional value of the amounts of food consumed by the wage earner groups living on the plantation (1964-2132 calories, 52-57 grams of albumin, 21-36 grams of fat, 389-403 grams of carbohydrate and 281-296 I. U. of vitamin B_1) was greater than that for the groups living off the plantation (1282-1983 calories, 32-53 grams of albumin, 14-38 grams of fat, 257-358 grams of carbohydrate and 185-268 I. U. of vitamin B_1). Among both categories the nutritional value of the amounts of food consumed per person per day increased with increased prosperity; in the case of the wage earner groups living off the plantation this was a sharp rise, while in the case of those living on the plantation it was only very slight. It appeared on the whole that the nutritional value of the amounts of food consumed per person per day did not increase after the family had reached a certain level of prosperity.

The nutritional value of the food of tani families was generally larger than that of the field laborer families living off the plantation, while it was approximately the same as that of the factory laborers living off the plantation.

Grains also play a large part in the nutritional value of the food. No less than 70 to 80% of the amount of calories, 55 to 70% of the number of grams of albumin, 15 to 40% of the number of grams of fat, 80 to 90% of the number of grams of carbohydrate, and 75 to 80% of the number of International Units of vitamin B_1 was derived from grains.

The other primary source of fat is coconut meat and coconut oil, while fruits and vegetables (especially vegetables) are the chief sources of vitamin A. In this connection it can be pointed out that due to the light consumption of coconut meat and coconut oil (in this connection also see the section on the crops raised on the garden-plot) the per person per day consumption of fat is much smaller in West Java than in Central and East Java. The share of albumin, fat and carbohydrate, which give 4, 9 and 4 calories per gram respectively, in the calory-provision was on the average 10, 10 to 20, and 70 to 80% respectively. The share of fat rose and that of carbohydrate declined as the prosperity of the family group increased.

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Finally the amount of food which was obtained for each cent spent represented a markedly larger food value in the case of the families living off the plantation than for similar family groups living on the plantation. The tani families got the most food for their money. In general the food became "more expensive" as the prosperity of the family group increased.

For the Coolie Budget Commission:

	Chairman:	Secretary:
(signed)	J. J. Ochse	H. M. J. Hart

Batavia, December 30, 1941.

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