ANNEX VIII

AGRO-ECONOMY

The Feasibility Study
on
Integrated Agricultural and Rural Development
in
Highland Area in the Republic of Indonesia

ANNEX VIII   AGRO-ECONOMY

Table of Contents

List of Tables

List of Figures

CHAPTER 1   BACKGROUND OF THE PROJECT

1.1   General Economic Situation of Indonesia

Indonesia is a tropical country, situated in Southeast Asia.   Agriculture is the country's economic resource base with about 172 million hectares of arable land (Baharsjah, 1994)[1].   Of this arable land 14.4 % is upland with the elevation of over 700 m above sea level.   Meanwhile, Java's upland area is estimated around a quarter of its total arable land (Partohardjono, 1994; Table 2, p.19)[2].

Since 1969, Indonesia had taken a great step in developing the country's economy through the implementation of a series of long-term development plans.   Each long-term development plan was a 25-year development plan, which was divided into consecutive five medium-term (five-year) economic development plans, called 'Repelita'.   The first long-term plan (called Pembangunan Jangka Panjang Tahap I; abbreviated as PJP I) was completed in 31 March 1994.   It was then followed with the implementation of the second long-term plan (called Pembangunan Jangka Panjang Tahap II; abbreviated as PJP II), but this plan had got disrupted as the nation have faced a complex crisis since July 1997.

Prior to the implementation of the PJP I in 1969, the condition of Indonesian economy was quite bad.   The situation was indicated by such indicators as hyperinflation, staple food crisis (notably rice), high unemployment rate and high poverty rate (See Mackie, 1967)[3].   The need for improving this economic condition had been one of the key reasons for the new order government of Indonesia to make strong commitment for carrying a series of long-term development plans since 1969.

With such strong commitment, the implementation of the first long-term development plans during the period of 1969-1994 had brought about quite good results.   During this development period, the national economy had grown at the annual average rate of 7% (Solahuddin, 1999)[4].   With such a high economic growth rate over more than two decades, Indonesia's economic status had risen from a low income country, with the average GNP per capita of some US$ 100 in

---

[1]   Baharsjah, Sjarifudin. 1994. **Pembangunan Pertanian di Indonesia: Pengalaman dalam Mencapai dan Mempertahankan Swasembada Beras (Agricultural Development in Indonesia: Experience in Pursuing and Maintaining Rice Self-Sufficiency)**. Jakarta: Kantor Menteri Pertanian Rep. Indonesia.

[2]   Partohardjono, Soetjipto. 1994. 'Upland Agriculture in Indonesia: Recent Trends and Issue'. In J.W.T. Bottema and D.R. Stoltz (eds), **Upland Agriculture in Asia**. Proceeding of a Workshop Held in Bogor, Indonesia on April 6-8, 1993. Bogor: CGPRT Centre; pp. 17-36.

[3]   Mackie, J.A.C. 1967. **Problem of the Indonesian Inflation**. New York: Modern Indonesian Project, Cornell University.

[4]   Solahuddin, Soleh. 1999. **Pembangunan Pertanian Era Reformasi (Agricultural Development in Reformation Era)**. Jakarta: Kantor Meneteri Pertanian Rep. Indonesia.

1969 to a middle income country, with the average GNP per capita of some US$ 1,155 in 1996 (Tambunan, 1996)[5]. This had been accompanied with a significant decline in the rate of absolute poverty, from 54.2 million persons (40.08 %) in 1976 to 25.9 million persons (13.7 %) in 1993 (Tambunan, 1996)[6].

The sudden emergence of a currency crisis in July 1997 had then dramatically changed the economic situations in Indonesia. This unexpected crisis had severely hit the national economy and caused the remarkable achievements during the PJP I to nearly all disappear within a very brief period of time. The national economy's growth rate suddenly dropped to the level of minus 13.6 % in 1998 (Tambunan, 1998)[7]. This had been followed with a dramatic decline in GNP per capita to be US$ 425.8 in 1998 (Tambunan, 1998)[8] which caused Indonesia's economic status to return to its previous status of low income country.

The crisis' impacts on unemployment and poverty are also quite dramatic. The unemployment level was estimated to be 13.7 million persons (14.8 %) in 1998 (ILO, 1999) [9] while the absolute poverty level was 49.5 million people (23.6 %) in 1998 (Kompas, August 18, 1999). The inflation rate became increased too, i.e. 80 % in 1998 (ILO, 1999)[10].

However, in some terms, especially unemployment and poverty levels, the condition of the rural community was worsened more than that of the urban society. This was partly due to the fact that a significant number of the previously urban residents who were loss of jobs and income had entered into the agricultural community. Their return to rural areas had then made the rural unemployment and poverty conditions which were already severely affected by the crisis became even more bad (Tambunan, 1999)[11].

While The National Development Plan Agency of the Republic of Indonesia has predicted the Indonesia's economy to improve by the year 2000 (See Tables VIII-1, VIII-2, VIII-3, VIII-4, VIII-5 and VIII-6)[12], much hard work is still required to

---

[5] Tambunan, Tulus. 1996. **Perekonomian Indonesia (Indonesia's Economy)**. Jakarta: Ghalia Indonesia.

[6] Tambunan, Tulus. 1996.   Op. Cit.

[7] Tambunan, Tulus. 1998. **Krisis Ekonomi dan Masa Depan Reformasi (Economic Crisis and The Future of Reformation)**.   Jakarta: Lembaga Penerbit Fakultas Ekonomi Universitas Indonesia.

[8] Tambunan, Tulus . 1998. Op. Cit.

[9] ILO (International Labour Organization), 1999. **Employment Challenges of the Indonesian Economic Crisis**.   Jakarta: ILO Office.

[10] ILO. 1999. Op cit.

[11] Tambunan, Mangara. 1999. 'Economic Crisis Induced Unemployment: Can Agricultural and Rural Economy Play as the Save Haven?'. A Paper Presented on International Seminar on Agricultural Sector During the Turbulence of Economic Crisis: Lessons and Future Directio Held in Bogor, February 17-18, 1999. Bogor: CASER. (Center for Agricultural-Social-Economic   Reearch)

[12] National Development Planning Agency of the Republic of Indonesia. **Looking to the Future of the Indonesian Economy**.

stabilize the national economy. While solving many other problems are also important, the provision of jobs and income for those unemployed and poor people, especially those ones who lived in the rural areas needs to be placed as the first priority. The fact that industrial sector and other parts of the formal sector had been severely hit by the current crisis implies that the creation of jobs must be beyond these sectors.

The government has just been inaugurated. It has not made any publication of its own economic development program. But, in 'Garis-Garis Besar Haluan Negara' (abbreviated GBHN) or the General Guideline for the National Development, the MPR (People Consultative Body, i.e. the national body which is in charged for Indonesian people's sovereignty) has already determined various fields or issues of economy that the government has to focus in its economic development.

In addition, some principles that the government has to follow in the programs' implementation have been also set. The principles include such matters as (a) the promotion of free market mechanism, (b) the promotion of healthy and fair competition, (c) the promotion of economic justice, (d) the promotion of public transparency and (e) the development of national economic competitiveness in any economic development program (See Tap MPR Nomor IV/MPR/1999 Tentang GBHN Tahun 1999-2004).

The government had managed to get control over various critical economic problems. Various policy measures had been launched and they were apparently focused on three fields of economic problems. The first area of public policy target was the stabilization of macro-economic environment required for making a better ground for the operation of the national economy. Another field of the target was the relief of current economic hardships faced by poor people and this included such programs as the 'social safety net program', and the middle and small-scale business empowerment program. The third field of the target was making the national economy move forward. The agricultural development program was one of the most significant public policy in this area.

1.2 Agricultural Development Policies and Program

Toward the end of 1998, the government launched the program of 'Gerakan Mandiri Peningkatan Produksi' (literally means Self-Reliant Movement for Agricultural Production Increase). The program was a broad one with multi-objectives and was composed of four sub-programs.

The objectives included (a) the acceleration of production of various crops, animal products and fisheries, (b) the generation of substantial jobs and income for the poor, (c) the increase of export revenues through the exportation of agricultural products, (d) the facilitation of diversification of food dietary which had been relied much on rice since a long-time ago, (e) the development of national food security and (f) the improvement of farmers' independency capacity and power to operate their farming business in the most possible efficient way and to improve their product competitiveness. To achieve this purpose, under the program the government also would provide various technical and financial assistance including such provisions as subsidized credit package (KUT), the development of production infrastructures and facilities, and the improvement of market accessibility (Solahuddin, 1999)[13].

In contrast to the other sectors, the agricultural sector appeared able to survive the crisis. The sector was still able to grow at a positive, but minor rate. The agriculture sector is expected to take an important role in recovery from the present economic condition. The newly elected government has decided to continue the implementation of the existing agricultural development plan, i.e. the 'Gerakan Mandiri ' (abbreviated as 'Gema').

The program consisted of four subprograms, namely (Solahuddin, 1999)[14]:

'Gema Palagung 2001' program: This is the program designed for the purpose of increasing the production of rice, soybean, and corn with the target of achieving self-sufficiency by the year 2001.

'Gema Proteina 2001' program: This program is set to increase the production of animal products until to the year 2001.

'Gema Hortina 2003' program: The program deals with the acceleration of production of tropical horticultural products including vegetables. The program targets to achieve the national production of equivalent to US$ 10 billion and the export of horticultural products of equivalent to US$ 600 million by the year 2003.

'Protekan 2003' program: The program is set to the increase of foreign currency revenues from the exportation of fishery products with the total revenue target of US $ 10 billion in 2003.

Details about area, production, and production value targets per annum for each subprogram during their implementation period are provided in Tables VIII-7,

---

[13] Solahuddin, Soleh. 1999. Op cit.
[14] Solahuddin, Soleh. 1999. Op cit.

VIII-8, VIII-9, VIII-10, and VIII-11.

The acceleration of the production of agricultural products is shared by all of its subprograms. Despite of the remarkable attempts for the maintenance of self-sufficiency in rice, which was first achieved in 1984, Indonesia often imported rice to meet the domestic demand whenever its domestic production was not sufficient. The failure of domestic production induced by El-Nino drought had made Indonesia face serious rice food shortages in 1997 and 1998. Under the current budget crisis, it would be logically impossible to rely on the food imports to cope with this staple food shortage. The establishment of the 'Gema Palagung 2001' program which aims at the achievement of self-sufficiency in rice, soybeans and corn by the year 2001 could, therefore, be rationalized from these perspectives.

The 'Gema Hortina 2003' program is a five-year program, extending from the year 1999 to the year 2003. The program includes four groups of horticulture, i.e. (a) vegetables, (b) fruits, (c) flowers, and (d) medicine crops. The vegetable group consists of potatoes, cabbages, chilies, red onion, tomatoes and mushrooms. The government designed two kinds of models for the development of vegetables under this program. The first one is called 'Penumbuhan Sentra'. This model is for the purpose of developing a new center for horticultural production. This is done by expansion of the production of horticulture onto unutilized land and increase of cultivation index of horticultural farming. For information about target development area under this model see Table VIII-12.

The other model is called 'Pemantapan Sentra'. This model concerns with the improvement of productivity of horticultural farming. This is achieved through various means. First is development of pre-harvest technology including development of new seed varieties, practices of efficient fertilizers and irrigation water, and development of cultivation management. Second is development of after-harvest technology, including development of quality standard system, and packaging system. Third is development of market accessibility through development of market information system, and development of agribusiness center unit. Fourth is development of institutions, i.e. development of units of supplying farmers' needs for farming inputs and packaging, development of business group, and development of commodity networking. For information about targets of development area under this model see Table VIII-13.

All programs have an objective to increase food production in the near future. This appears partly as a response to the current food dietary problems which include both quantity and quality aspects. In general, the current levels of

quantity and quality of Indonesian diet are still below the 'norma pola pangan harapan' (abbr. norma PPH), (literally meaning, the national recommended ideal norm of daily calorie consumption).   Actually, these problems reflected the fact that Indonesian dietary consisted mostly of rice.

Food consumption diversification has been a long-standing issue in Indonesia.   It has been, in fact, an integral part of the national food security system as the 1996 Food Security Law determines.   Therefore, Indonesia is presently facing the challenge of improving both the quantity and the quality of individual daily food intake.   Meanwhile, according to the 'norma PPH', 85% of individual daily food calorie intake should be of crop products, including vegetables and fruits (Purwoto, Hartoyo and Suryana, 1998)[15].

Clearly, the key to solve the present quantity and quality food intake problems that Indonesia faces is the development of crop agriculture.   Given the dimension of problems which involve not merely quantity, but also quality, the agricultural development should not be concentrated on rice farming.   More over, the 'norma PPH' of daily food intake could only be attained through the diversification of food consumption.   This implies that the development of agriculture should be also designed to support the diversification of food consumption to enable the Indonesians to reach the 'norma PPH' of daily food intake pattern.   The design of the on-going program of 'Gema' which covers a broad variety of food crops apparently fitted with such agricultural development requirement.

Another reason for development of horticultural agriculture is the government's recent decision to promote the consumption of vegetables and fruits by Indonesians to achieve the FAO recommended level of 65 kgs per capita per annum.   If successful, this would raise the national demand for vegetables and fruits significantly (Solahuddin, 1999)[16].   It had identified the tendency of vegetable and fruit consumption by both rural and urban households increased (Purwoto, Hartoyo and Suryana, 1998)[17].   Further reason to boost the production of horticultural products, especially vegetables, was the tendency of its exports to grow over the recent years (Purwoto, Hartoyo and Suryana, 1998)[18].   The increase of vegetable export revenue is required to meet the government's need for foreign revenues.   The need has become increasingly serious in recent years

---

[15]   Purwoto, Adreng, Sri Hartoyo and Achmad Suryana. 1998. 'Penawaran, Permintaan dan Konsumsi Pangan Nabati di Indonesia' (Supply, Demand and Consumption of   Crop Food in Indonesia). In Widyakarya Nasional Pangan dan Gizi VI Tahun 1998. Jakarta: Lembaga Ilmu Pengetahuan Indonesia; pp. 541-596.

[16]   Solahuddin, Soleh. 1999. Op cit.

[17]   Purwoto, Adreng, Sri Hartoyo and Achmad Suryana. 1998. Op cit.

[18]   Purwoto, Adreng , Sri Hartoyo and Achmad Suryana. 1998.   Op cit.

(Tambunan, 1998)[19].

1.3   Some Fundamental Issues on Highland Development

The current crisis, which has rapidly worsened unemployment and poverty conditions has intensified population pressure on the occupation of Java's upland area for agriculture.   Meanwhile, the government attention on the development of highland agriculture has been widely considered insufficient.   To develop the upland agriculture for the current needs for expanding employment opportunity and income for the poor of Java, the following fundamental issues requires attentions, especially from the government.   In order to accelerate the development of the upland agriculture, sufficient efforts from the government are required to overcome these problems.

1.3.1   Soil Erosion and Resources Degradation

Upland agriculture is confronted with some biophysical constraint.   The constraints are multi-dimensional.   It involves such factors as low soil fertility, soil fragility, highly sloping terrain and low water holding capacity.   Thus the upland area is very susceptible to soil erosion and resource degradation.   As a result the productivity of upland farming is not only relatively low, but also highly variable and less sustainable.   Thus, the development of upland area for intensive agriculture is confronted with the issues of land productivity, stability, and sustainability.

1.3.2   Practice of Exploitative Traditional Farming System

The problems of land productivity, stability, and sustainability in the upland agriculture is often aggravated by the practice of exploitative traditional farming system without an adequate measure for soil and environmental conservation. As a consequence, both farmers and their upland resources become more impoverished from time to time.   Improved farming practice through the modernization of farming production technology is required to improve this situation.   The new technology must integrates both productivity-improvement and resource-conservation needs into farming practice.   This critical requirement highlights the importance that the government mobilizes sufficient efforts for the development of upland production technology and to assist upland farmers in using the newly developed technology of production.

---

[19]   Tambunan, Tulus. 1998. Op cit.

1.3.3 Lack of Transportation Means

In contrast with that on its low land area, the provision of infrastructures, notably road and irrigation facilities, in the upland area of Java are very insufficient. The development of a road network is critical in improving the upland farmers' accessibility to markets both in terms of inputs and outputs. This development could also significantly reduce the cost of transportation. The size and scope of economic activities would substantially increase as the upland agriculture becomes developed. The spread of use of the new production technology would lead to the intensification and extensification of the upland agriculture. As a result, there would be a substantial increase in the amount of farm outputs and inputs which would need transportation. In addition, other activities in the upland and nearby areas, including urban areas would get expanded as the substantial income generated from the modernised upland spreads through out the economy.

1.3.4 The Need for Standardisation of Horticulture Products

Up to now, a system of product quality and quantity standardization for vegetables has not been developed. Meanwhile, modern market transactions require standardization of products. Product standardization is especially critical when products are sent to overseas market whereby there is a significant lag of time between the date of signing the contract and its completion.

1.3.5 The Need for Post Harvest Processing Facilities

Agricultural products are naturally perishable especially for vegetables. Nevertheless, the high perishable nature of vegetables is often a crucial factor in making them not marketable to distant markets. Through processing, product perishability could be improved so that reduces the loss of product quantity and quality in their transportation and distribution, and also enhances its market opportunity. Another benefit that could be gained from the development of processing facilities is that by converting fresh agricultural products into more developed products, the producers will obtain more value from their products and hence, improve their family income. The processing activity also has a positive effect on job opportunity in the local area.

1.3.6   The Need for Production Credit Scheme

The intensification of upland agriculture with the use of the new production technology together with its modern input components means that the operation of upland farming requires much larger amount of cash capitals than before.   Since Java's upland farmers are, in general, poor with an average farming operation of less than 0.5 ha, the possibility that these farmers could get such cash capital requirement would be very low.

Thus, for making the upland development program successfully, an operational credit scheme for upland farming must be innovated.   The innovated credit scheme must be the one that makes these poor farmers easily accessible and motivating to participate in the upland development program.   Accordingly, credit procedures must take into account constraints that they face such as lack of ability to provide acceptable collateral, and remoteness of their residency and farming.

Provision of subsidy in the form of discounted interest rate may be incorporated into the scheme.   From the farmers' perspective, the use of the new production technology is riskier than that of the traditional one, though this may be not necessarily evident.   The subsidy could be perceived as an allowance for their riskier perspective so as to make them willing to adopt it.   In addition, the practice of the new production technology would benefit people living nearby and downstream through its effect on the improvement of water table and, reduction in land slide and soil erosion.   While the farmers bear all the cost of this environmental improvement, they cannot tax these beneficiaries to meet the cost of the generation of the benefit they enjoy.   The subsidy could be then seen as a compensation for the loss of this tax.

1.3.7   The Need for Land Certification Program

The improvement of farming practice on the upland agriculture through the use of the new production technology clearly has the implication for the improvement of production capacity of the upland agricultural area.   The process of this productive capacity improvement is, however, a long-term process which requires a substantial amount of investment.   This costly investment could be recouped in the form of productivity gain over a long period of time.

Logically, the farmers are only willing to make such a costly investment on agricultural land if they have exclusive rights over the land that they are operating. However, most upland farming plots are without secured formal rights (official certificates).   So it is important for the Government to land registration and

certification if the upland agricultural development program is to be implemented successfully. In addition, this certification could improve the upland farmers' access to the formal credit market. The certified plots of land can now be used as credit collateral (Hayami, 1994)[20]. This would enhance the opportunity of poor upland farmers to participate in the modernization program of upland agriculture.

1.3.8 The Need for Strengthening of Institutions Supporting Upland Farming Development

The development of upland agriculture is essentially the transformation of traditional farming practice into modern-commercial farming business. The modern farming business requires farmers to closely cooperate in the fields of both production and marketing so as not to loose the opportunity to obtain (at any given of time) a maximum income gain from their modern farming operations which involve expensive capital and investment. This cooperation will be facilitated by various farming institutions such as the institution of farmers group (Kelompok Tani), that of irrigation water users group (P3A Mitracai) and that of farmers cooperative (KUD or Koptani).

While these institutions have existed in most upland communities for some period of time, it has been now widely known that in general they are not well-functioning. Accordingly, the immediate task for the government in this area of upland problem is to provide sufficient efforts to assist for the strengthening or the development of these institutions to make them become an effective means in promoting the required cooperation for modern-commercial farming business among farmers in upland areas.

---

[20] Hayami, Yujiro. 1994. 'Marketing Upland Crops for Rural-Based Economic Development'. In J.W.T. Bottema and D.R. Stoltz (eds), **Upland Agriculture in Asia**. Proceeding of a Workshop Held in Bogor, Indonesia on April 6-8, 1993. Bogor: CGPRT Centre; pp.95-106.

Chapter 2   SUPPLY AND DEMAND OF TARGETED VEGETABLES AND VEGETABLE PRICE PROSPECTS

2.1   Analysis of Supply-Demand Balance of the Target Vegetables

The future balance between supply and demand for the target vegetables has been estimated.   The estimations are based on the following process and factors:

(a) Projection of total production

(b) Projection of total supply

(c) Projection of total demand on the basis of the following projection

    (*) Projection of consumption per capita

    (*) Projection of population

    (*) Projection of Total Demand

(d) Balance between Supply and Demand [21]

The resulting estimates of supply-demand balance are presented in the following table.   According to the estimation results, the demand for tomatoes is in excess of its domestic supply from the year 2000 until to the year 2010.   The supply-demand balance of chilies also shows the same trend.   However, the supply-demand balance of cabbages exhibits the opposite trend, from the year 2000 to the year 2010.   According to the resulted estimates, the supply of cabbages is in excess of its demand from the year 2000 until to the year 2010.

Meanwhile, the supply-demand balance of red onion exhibits a mixed trend. From the year 2000 until to the year 2004, the supply is in excess of its demand. In the year 2005, the excess will disappear and supply becomes balanced with its demand.   After the year 2006 until to the year 2010, the demand for red onion becomes higher than its supply.   A similar trend also occurs in Langensari village in the case of supply-demand balance of garlic.   From the year 2000 until the year 2005, the supply of garlic is in excess of its demand.   But, the reversed supply-demand balance condition will occur from the year 2006 until to 2010. During this period of time, it is predicted demand for garlic will be higher than its supply.

---

[21] Main sources of   data for this estimation are SUSENAS 1987, 1993 and 1996

Estimates of Supply-Demand Balance of Some Major Vegetables

	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Cabbage	+	+	+	+	+	+	+	+	+	+	+
Tomatoes	-	-	-	-	-	-	-	-	-	-	-
Red onion	+	+	+	+	+	0	-	-	-	-	-
Chili	-	-	-	-	-	-	-	-	-	-	-
Garlic	+	+	+	+	+	+	-	-	-	-	-

Notes: (+) = excess supply, (-) = excess demand, (0) = no excess
Source: JICA Study Team

The estimation of future supply-demand balance of vegetables are based on these three crucial assumptions:

(a) There will be no general significant improvements in production system of vegetables during the prediction period in Indonesia.

(b) There will be no general significant improvements in post harvest activities by vegetable farmers during the prediction period in Indonesia.

(c) There will no general significant improvements in marketing system of vegetables during the prediction period in Indonesia.

2.2   The Prospects of Vegetable Prices in the Markets

In the preceding discussion, it has been explained predictions about future condition of supply-demand balance of some major vegetables.   These predictions are relevant only from the viewpoint of the economic theory of market.   According to this theory, when excess supply occurs in a market, price of the traded commodity will tend to decline to make its buyers willing to buy more so as to settle the excess.   By contrast, the price will tend to increase when excess of demand prevail in the market.   In other words, according to this theory, price will act as an effective means to make an adjustment in the market whenever supply and demand is not at a balanced condition.

By applying this economic theory of market to the context of supply-demand balances explained above, one may foresee the following future price trends for the studied vegetables.   The price of cabbage will have a declining trend through out the period of 2000-2010.   Conversely, the price of tomatoes and that of chilies both will have the tendency to increase during this period of time.   In the case of red onion, the following mixed price trend will occur.   The price of red onion will have the tendency to increase during the period of 2000-2004, and then become stable in the year 2005.   After this time, during the period of 2006-2010, the price of red onion will have the tendency to increase.   A very similar trend of price will be applied to the case of garlic.   At the early part of the studied period (i.e. 2000-2005), the price of garlic will have the tendency to decline.   After this

time, the price of garlic will have the tendency to increase.

The above discussion is concerned only about future trends of annual average prices of these major vegetables.   It gives no information regarding the extent of their monthly price fluctuations.   This kind of price information is important for production management decision.   So the extent of monthly price fluctuations in four local vegetable markets and wholesale vegetable markets was investigated[22]:

Local markets
(a) Lembang and Ciwidey vegetable markets, both located in the District of Bandung,
(b) Cipanas vegetable market, located in the District of Cianjur and
(c) Cikajang vegetable market located in the District of Garut,

Wholesale markets:
(a) Caringin vegetable market, located in the City of Bandung and
(b) Kramat Jati vegetable market, located in the City of Jakarta.

All these markets have potential for the selling of vegetables, which are produced in the proposed areas for the vegetable production intensification program.

The investigation's results are presented in Figure VIII-1.   The following conclusions may be drawn.   First, all the vegetables exhibit high monthly price fluctuation at all levels of market.   Second, the magnitudes of monthly price fluctuation are, however, much more pronounced for chilies and red onion than for cabbage and tomatoes.   Third, there is a tendency that magnitude of monthly price fluctuation increases when annual average price increases, and vice versa.

Such phenomena of monthly price fluctuation of vegetables are attributable to their production and product characteristics.   These include such as high seasonality of production and high perishability of product.   Theoretically, these characteristics are improveable.   The highland intensive vegetable production program tries to carry out such improvement process in the selected model areas.

A crucial input for successful vegetable production is the control of irrigation water.   Most vegetable production systems in Indonesia is without a controlled irrigation system.   The current production system affects adversely both production and prices received by vegetable farmers. Production of vegetable is carried out mostly only at the wet season.   Due to the lack of irrigation water at

the dry season, the cultivation of vegetable at this season is not common phenomena. Accordingly, there is a tendency of prices of vegetables to be unstable. At the wet season, prices tend to be relative low due to the existence of excess of supply. Conversely, at the dry season prices of vegetables tend to be relatively high due to the shortage of supply of vegetables. In short, the current production system makes vegetable farmers not only, in general, not able to obtain good prices for their products but also to face unstable price trend of vegetables.

These problems are reinforced by the fact that vegetable products are relatively highly perishable. The farmers, in general, conduct no post harvest handling activities to improve the perishability of their vegetable products. As a consequence, they have to sell their fresh vegetables immediately after the harvest. Such a selling method of vegetables makes their bargaining position in dealing with traders become weak.

Their bargaining position becomes weaker as they make not collective, but individual trade bargaining with the middleman when selling their products. Indeed, the present marketing system of vegetable products is generally disadvatagenous to the farmers.

The above-mentioned vegetable condition of production and marketing systems would be another good reason to support the implementation of vegetable intensification program in the model areas. This program intends to improve production and marketing systems through the development of production and marketing infrastructures, and production technology as well as the strengthening of local institutions required to serve commercial vegetable farming business, such as 'Kelompok Tani' (farmers group), 'P3A mitracai' (farmer-water-user group) and 'koperasi' (cooperative) which are presently not well-functioning. Succeeding in carrying all these tasks would make the future of vegetable production in the model areas become prospective. As the project has succeeded in improving production and marketing constraints that local farmers face, they will be able not only to obtain higher productivity from their farm, but also to get better prices for their products. As such, these farmers' household income would improve much.

In addition, the controlled system of irrigation supply together with the improved production technology will make the local farmers able not only to cultivate modern highly valued vegetables, instead of the traditional low priced ones, but also to cultivate vegetable at off seasons at which the prices of vegetables

[22] The investigation includes only cabbage, tomatoes, red onion and chillie, since price data of garlic for these markets available.

relatively high due to the shortage of their supply.   Thus, even if currently prices of vegetables are highly fluctuated as discussed above, there seems some quite plausible reasons to expect that such disadvantageous price variation trend will not apply to vegetables produced in the model areas in the future.   Indeed, the farming business of vegetables under the project condition in the model areas will be beneficial for local producers.

Chapter 3   SOCIO-ECONOMIC CONDITIONS OF THE FOUR PRIORITY MODEL AREAS

3.1   Socio-Economic Conditions of Mekarjaya Model Area

(1) Administration Jurisdiction

Mekarjaya model area is situated in Mekarjaya village.   This village is a part of Arjasari subdistrict which is one of sub-districts within the administration jurisdiction of   Bandung district.   The village is the terminal administration unit which is divided into several blocks, called RW.   The RW is then divided into several blocks of neighborhood groups called RT.   The representatives are appointed at both levels of RW and RT and playing an important role in collection of land tax and information distribution to the household level.

(2) Population and Household

Data on numbers of population and households in this village is collected from the village office data source.   The total of village households is 1,140 units with the total population is 4,314 persons.   Thus, the average size of household is 3.78 person.   Meanwhile, the number of farming households that are direct beneficiaries in the Mekarjaya model area is 450 units.

As for female-male ratio in this village, male population is larger than female population with the ratio of 110.7.   While, the proportion of household headed by women is 13.7%.

Absentees are persons listed as local residents who are absent in the village for more than four months in a year.   The proportion of absentees in Mekarjaya village is very low (less than 1%).   In addition, the education level of adult population (over 18 years old) is relatively low in Mekarjaya village.   In this village, the proportion of adult population that are classified into 'no formal education' and 'not completed primary school' is 30%.   Meanwhile, occupation status of economically active population (15-60 years old) is mostly (59.2%) employed in farming activities, either as farmers or as on-farm wage labor.   The rest are employed either as off-farm wage labor, salary workers, private business, or others.   In addition, in terms of the distribution of households by occupation, about 80% of the total households are agricultural households and of these households about 20% are actually farm laborers.

The fact that most of local households are reliant on agricultural activities for their family income implies the significance of this vegetable intensification program to be developed in Mekarjaya village.   As discussed previously, this kind of project

could improve the living standards of rural people through various ways including such as increase of farming income, increase of farming laboring activities and increase of other related business activities.

(3)   Degree of Food Self-sufficiency

The degree of food self-sufficiency in the households was surveyed for five food items, namely cereals, vegetables, roots and tubers, meat and fish.   In Mekarjaya, the proportion of households usually purchase cereals for household consumption is less than a half one (43%.)   Meanwhile, the proportion of households usually purchasing vegetables for home consumption is slightly higher (58 %).   As for roots and tubers, the proportion of households usually purchasing for home consumption is less than a quarter (22%).   But, for the cases of meat and fish, the proportions of households usually purchasing these food for home consumption are both quite high, respectively 93% and 81%.

3.2   Socio-Economic Conditions of Tanjungkarya Model Area

(1)   Administration Jurisdiction

The Tanjungkarya model area is located in Tanjungkarya village.   This village is administratively a part of Samarang sub-district that is itself a part of Garut district.   As previously mentioned, village is a terminal administration unit which is divided into several blocks, called RW.   The RW is then divided into several blocks of neighborhood groups called RT.   The representatives are appointed at both levels of RW and RT and playing an important role in collection of land tax and information distribution to the household level.

(2)   Population and Household

Data about numbers of population and households in this village is collected from the village office data source.   The total of village households is 1,379 units with the total population is 6,234 persons.   Thus, the average size of household is 4.52 persons.   Meanwhile, the number of farming households that are direct beneficiaries in the Tanjungkarya model area is 200 units.

As for female-male ratio in this village, male population is larger than female population with the ratio of 106.2.   While, the proportion of household headed by women is one eighteenth of the total households.   In addition, the proportion of absentees in Tanjungkarya village is less than 1 %.

As in the previous villages, the education level of adult population (over 18 years old) is relatively low in Tanjungkarya village.   In this village, the proportion of adult population that are classified into 'no formal education' and 'not completed

primary school' is 27%.   Meanwhile, occupation status of economically active population (15-60 years old) is mostly (57.9%) employed in farming activities, either as farmers or as on-farm wage labor.   The rest are employed either as off-farm wage labor, salary workers, private business, or others.   In addition, in terms of the distribution of households by occupation, 79.7% of the total households are agricultural households and of these households about 5% are actually farm laborers.

The fact that most of local households are reliant on agricultural activities for their family income implies the significance of this vegetable intensification program to be developed in Tanjungkarya village.   So this kind of project could improve the living standards of rural people through various ways including such as increase of farming income, increase of farming laboring activities and increase of other related business activities.

(3)   Degree of Food self-sufficiency

As in the previous villages, in Tanjungkarya the degree of food self-sufficiency in the households was surveyed for five food items, namely cereals, vegetables, roots and tubers, meat and fish.   In this village, the proportion of households usually purchasing cereals for household consumption is about a half one (50%.) Meanwhile, the proportion of households usually purchasing vegetables for home consumption is much less (21%).   As for roots and tubers, the proportion of household usually purchasing for home consumption is higher (41%).   But, for the cases of meat and fish, the proportions of households usually purchasing these food for home consumption are both quite high, respectively 97% and 62%.

3.3   Socio-Economic Condition of Gekbrong Model Area

(1)   Administration Jurisdiction

The Gekbrong model area is located in Gekbrong village.   This village administratively is a part of Warungkondang sub-district that is one of subdistricts in Cianjur district.   As in other villages, this village is divided into several blocks, called RW.   The RW is then divided into several blocks of neighborhood groups called RT.   The representatives are appointed at both levels of RW and RT and playing an important role in collection of land tax and information distribution to the household level.

(2)   Population and Household

Data on numbers of population and households in this village is collected from the village office data source.   The total of village households is 1,353 units with the

total population of 5,511 persons.   Thus, the average size of household is 4.07 persons.   Meanwhile, the number of farming households that are direct beneficiaries in the Gekbrong model area is 111 units.

As for female-male ratio in this village, male population is larger than female population with the ratio of 139.7.   While, the proportion of household headed by women is none.   In addition, the proportion of absentees in Gekbrong village is 2%.

As in Mekarjaya and Langensari village, the education level of adult population (over 18 years old) is relatively low in Gekbrong village.   In this village, the proportion of adult population that are classified into 'no formal education' and 'not completed primary school' is 23%.   Meanwhile, occupation status of economically active population (15-60 years old) is mostly (70.7%) employed in farming activities, either as farmers or as on-farm wage labor.   The rest are employed either as off-farm wage labor, salary workers, private business, or others. In addition, in terms of the distribution of households by occupation, 81.3% of the total households are agricultural households and of these households 40% are actually farm laborers.

The fact that most of local households are reliant on agricultural activities for their family income implies the significance of this vegetable intensification program to be developed in Gekbrong village.   As discussed previously, this kind of project could improve the living standards of rural people through various ways including such as increase of farming income, increase of farming laboring activities and increase of other related business activities.

(3)   Degree of Food Self-sufficiency

As in Mekarjaya and Langensari villages, in Gekbrong village the degree of food self-sufficiency in the households was surveyed for five food items, namely cereals, vegetables, roots and tubers, meat and fish.   In this village, the proportion of households usually purchasing cereals for household consumption is about 100%.   Meanwhile, the proportion of households usually purchasing vegetables for home consumption is much less (23%).   As for roots and tubers, the proportion of household usually purchase for home consumption is slightly higher (30%).   But, for the cases of meat and fish, the proportion of households usually purchase these food for home consumption are both quite high, respectively 96% and 96%.

3.4　Socio-Economic Conditions of Langensari Model Area

(1)　Administration Jurisdiction

The Langensari model area is located in Langensari village. This village administratively belongs to Lembang sub-district that is one of sub-districts in Bandung district. As in other villages, this village is divided into several blocks, called RW. The RW is then divided into several blocks of neighborhood groups called RT. The representatives are appointed at both levels of RW and RT and playing an important role in collection of land tax and information distribution to the household level.

(2)　Population and Household

Data on numbers of population and households in this village is collected from the village office data source. The total of village households is 2,112 units with the total population of 8, 592 persons. Thus, the average size of household is 4.06 persons. Meanwhile, the number of farming households that are direct beneficiaries in the Langensari model area is 260 units.

As for female-male ratio in this village, male population is larger than female population with the ratio of 124.0. While, the proportion of household headed by women is 2.7% of the total household. In addition, the proportion of absentees in Langensari village is 1%.

As in the case of Mekarjaya villages, the education level of adult population (over 18 years old) is relatively low in Langensari village. In this village, the proportion of adult population that are classified into 'no formal education' and 'not completed primary school' is 12%. Meanwhile, occupation status of economically active population (15-60 years old) is mostly (55.7%) employed in farming activities, either as farmers or as on-farm wage labor. The rest are employed either as off-farm wage labor, salary workers, private business, or others. In addition, in terms of the distribution of households by occupation, 67.2% of the total households are agricultural households and of these households about 20% are actually farm laborers.

The fact that most of local households are reliant on agricultural activities for their family income implies the significance of this vegetable intensification program to be developed in Langensari village. As discussed previously, this kind of project could improve the living standards of rural people through various ways including such as increase of farming income, increase of farming laboring activities and increase of other related business activities.

(3)　Degree of Food Self-sufficiency

As in the case of Mekarjaya village, the degree of food self-sufficiency in the households in Langensari village was surveyed for five food items, namely cereals, vegetables, roots and tubers, meat and fish. In this village, the proportion of households usually purchasing cereals for household consumption is about 92%. Meanwhile, the proportion of households usually purchasing vegetables for home consumption is much less (22%). As for roots and tubers, the proportion of household usually purchasing for home consumption is slightly higher (67%). But, for the cases of meat and fish, the proportion of households usually purchasing these food for home consumption are both quite high, respectively 97% and 61%.

Tables

Table VIII-1 The Macroeconomic Outlook

Key Indicator	Years								
	1996/1997	1997/1998	1998/1999	1999/2000	2000/2001	2001/2002	2002/2003	2003/2004	2004/2005
1. Rp/ US$ (end-of-period)	2.419	8.325	8.685	6-8.000	6-8.000	6-8.000	6-8.000	6-8.000	6-8.000
2. Real Exchange Rate :	100	245	175.1	138.5	120.8	125.8	122.2	119.9	118.8
a. (% change relative to 1996/97)		145	75.1	38.4	30.8	25.8	22.2	19.9	18.8
3. Real Interest Rate a/	11.1	7.7	-0.9	5	4	4	4	4	4
4. GDP (% change)	8.2	1.9	-14.6	2-4.	3-5.	4-6.	4-6.	6-7.	6-7.
5. Per Capita GDP (US$)	1.159	412	571	745	828	911	1.001	1.095	1.181
6. Current Account Balance (% of GDP)	-3.5	-2	3.7	2	0.5	-0.4	-1.1	-1.6	-1.8
7. External Debt (% of GDP) :	49.2	166.2	128.5	96.6	86.4	77.9	68.8	61.9	55.2
a. Public b/	22.9	65.2	58.6	49.3	46.5	43.2	38.1	33.3	29.1
b. Private	26.3	101	69.9	47.3	39.9	34.7	30.7	28.1	26.1
8. Government Debt (% of GDP) :	22.9	65.2	74.9	97.8	90.6	83.5	74.7	65	56.6
a. Foreign	22.9	65.2	58.6	49.3	46.5	43.2	38.1	33.3	29.1
b. Domestic	0	0	16.3	48.5	44.1	40.3	36.6	31.7	27.5
Key Assumptions									
Crude Oil Export Prices ($/bbl)	20.7	16.9	12	15	15	15	15	15	15
Inflation (% change)	4.8	36.8	45.4	4-6.	5-10.	4-8.	3-7.	3-5.	2-4.
Fiscal Balance (as % of GDP)	1	0	-1.9	-5.1	-4.3	-3.6	-1.8	-1.1	-0.8

a/ TD 1 month

b/ Inclusive of IMF lending

Source : Looking To The Future Of The Indonesian Economy, National Development Planning Agency, RI, 1999, p. 42

Table VIII-2 Growths in GDP (%)

Indicators	Years									
	1992 to 1995	1996/1997	1997/1998	1998/1999	1999/2000	2000/2001	2001/2002	2002/2003	2003/2004	2004/2005
A. Contribution to Growth										
1. GDP	7.7	8.2	1.9	-14.6	2-4.	3-5.	4-6.	4-6.	6-7.	6-7.
a. Household Consumption	5.2	4.9	4.7	-3.3	2.4	2.1	2.5	4	2.7	2.8
b. Government Consumption	0.3	0.1	-0.3	-0.9	-0.1	0	0	0	0.8	0.2
c. Gross Fixed Investment	2.8	4.6	-3.1	-14.3	-0.5	2.3	2.7	2	3	3.4
1. Private	-	4.1	-3.2	-12.4	-1.9	1.6	2.4	2.4	3.3	3.2
2. Government	-	0.5	0.1	-1.9	1.4	0.7	0.4	-0.4	-0.3	0.1
2. Net Exports	-0.6	-1.5	0.5	4	0.7	-0.3	-0.2	0	-0.1	0.2
a. Exports	2.8	1.2	5.6	-4.3	1.5	1	1.4	2	2.3	2.6
b. Imports	-3.4	-2.6	-5.1	8.3	-0.8	-1.4	-1.6	-2	-2.3	-2.5
B. Growth in GDP Output										
1. Agriculture	2.3	4.1	-0.8	1.8	2.8	2.5	2.5	2.5	2.5	2.5
2. Manufacturing	10.9	12.3	2.9	-14.2	3.9	5.9	7.6	8.8	9.3	9.3
3. Non Oil & Gas	12.3	12.4	3.4	-15.9	4.1	6.5	8.2	9.6	10	10
4. Others	7.7	7.6	2.1	-18.8	1.8	3.7	4.6	5.7	6.2	6.3

Source : Looking To The Future Of The Indonesian Economy, National Development. Planning Agency, RI, 1999, p. 44

Table VIII-3   Outlook for the Monetary Sector

Indicators	Years								
	1996/1997	1997/1998	1998/1999	1999/2000	2000/2001	2001/2002	2002/2003	2003/2004	2004/2005
1. Inflation (% change)	4.8	36.8	45.4	4-6.	5-10.	4-8.	3-7.	3-5.	2-4.
2. Nominal interest rates									
a. SBI one month rate	11.1	27.8	37.8	9-12.	9-15.	8-13.	7-12.	7-10.	6-9.
b. One month time deposit	15.9	44.5	44.5	9-10.	10-14.	10-12.	8-10.	7-9.	6-8.
c. Investment lending rate	18.9	27.8	31.8	18-22.	16-20.	14-16.	11-13.	10-12.	9-11.
3. Real interest rate a/	11.2	7.7	-0.9	5-6.	4-5.	4-5.	4-5.	4-5.	4-5.
4. Monetary Aggregates (% change) :									
a. M0	16.3	74.8	27.5	7.3	15	12	11	10	10
b. M1	19.6	54.6	7.6	23.9	17.2	14.1	13.1	10.7	10.7
c. M2	26.7	52.7	34.1	7.8	15.3	12.3	11.3	10.3	10.3
5. Financial Deepening (%) :									
a. M1/ GDP	11.4	14.2	10.4	12.1	12.6	12.9	13.1	13.1	13.1
b. M2/ GDP	53	65.1	59.5	60.1	61.5	61.9	61.8	61.5	61.7
6. Growth in Real Balances b/									
a. M1	14.4	13	-26	19.1	8.5	7.7	7.7	6.4	7.4
b. M2	21	11.6	-7.8	3.7	6.8	5.9	6	6	7.1

a/ Based on SBI one month rate

b/ Real balances are defined as the relevant monetary aggregate over the consumer price level

Source : Looking To The Future Of The Indonesian Economy, National Development Planning Agency, RI, 1999, p. 46

Table VIII-4   Balance of Payments Outlook
(in billions of US$)

Indicators	1996/1997	1997/1998	1998/1999	1999/2000	2000/2001	2001/2002	2002/2003	2003/2004	2004/2005
1. Exports	52	56.2	48.3	53.1	57.6	62.5	68.4	75.4	84.1
- Oil & LNG	12.8	10.2	7.2	9.1	9.6	10	10.5	11.1	11.7
- Non-Oil	39.3	45.9	41.1	43.9	48	52.5	57.9	64.4	72.4
- In % per annum	5.7	17	-10.6	7	9.2	9.5	10.3	11.2	12.4
2. Imports	45.8	42.7	30.7	33.8	37.8	42.4	47.7	53.8	60.9
- Oil & LNG	4.7	4.1	2.8	3.3	3.8	4.1	4.5	4.9	5.3
- Non-Oil	41.1	38.6	27.8	30.5	34	38.2	43.2	48.9	55.6
- In % per annum	9.4	-6.1	-28	9.8	11.4	12.5	13	13.3	13.5
3. Service (net)	-14.3	-15.2	-13.3	-16.1	-18.8	-20.9	-23.1	-25.5	-27.9
- O/ w: Interest on Public Debt	-2.7	-2.5	-2.9	-3.3	-3.6	-4.2	-4.1	-4	-3.8
4. Current Account Balance	-8.1	-1.7	4.3	3.1	0.9	-0.7	-2.4	-3.8	-4.6
5. Capital Account Balance	12.7	-10.7	-4.7	-3.8	0.7	3.2	4.1	6	7.4
a. Official	-0.8	1.1	5.5	4.1	2.2	0.7	0	-1.1	-0.8
- Inflows	5.3	5.3	9.2	8.4	6.6	6.3	5.8	4.8	4.8
- Outflows	-6.1	-4.1	-3.7	-4.4	-4.4	-5.7	-5.9	-5.8	-5.6
b. Net Private	13.5	-11.8	-10.2	-7.9	-1.5	2.6	5.8	8.3	9.2
- FDI	6.5	1.8	0.1	0.6	2	4.8	6.6	7.3	7.8
- Other	6.9	-13.7	-10.3	-8.5	-3.5	-2.2	-0.8	1	1.4
c. Exceptional Financing	—	3	7.1	3.7	2.7	2.2	0.3	-0.4	-1.5
- IMF	—	3	6.2	2.1	1	0.5	-1.3	-1.7	-2.5
- Rescheduling	—	—	0.9	1.6	1.7	1.7	0	0	0
6. Overall Balance	4.6	-9.3	6.7	3	4.4	4.7	2.1	1.8	1.3
a. Gross Foreign Assets	26.6	16.5	25.7	28.7	33.1	37.8	39.9	41.7	43
- US$, billion in months of imports	5.3	3.4	7	6.9	7	7.2	6.8	6.3	5.8
b. Net Foreign Assets (US$, billion)	26.6	13.5	16.5	17.4	20.7	24.9	28.3	31.8	35.6
c. External debt	113.1	138	149.9	149.3	150.7	151.3	149.2	147.5	145.7
- Public a/	52.6	54.2	68.4	76.2	81.1	84	82.6	79.9	76.7
- Private	60.5	83.9	81.5	73.1	69.6	67.4	66.6	67.6	69

a/ Inclusive of IMF lending

Source : Looking to The Future Of The Indonesian Economy, National Development Planning Agency, RI, 1999, p. 47

Table VIII-5   The Fiscal Outlook [1/]
(In percent of GDP)

Indicators	1996/1997 Actual	1997/1998 Actual	1998/1999 Prelim	1999/2000 Est'd 2/	2000/2001 Projection	2001/2002 Projection	2002/2003 Projection	2003/2004 Projection	2004/2005 Projection
1. Total revenue and Grants	15.8	16.2	15.4	14.2	15.4	15.6	15.9	16.4	16.8
2. Tax revenue	13.9	14.7	14.2	13	14.1	14.2	14.3	14.5	14.8
- Oil/ gas	3.6	4.4	4.1	3.6	3.1	2.8	2.5	2.3	2.1
- Non-oil/ gas	10.3	10.3	10.1	9.4	11	11.4	11.8	12.2	12.7
- Income Tax	4.9	5	5.5	4.4	5.5	5.7	6	6.3	6.6
- Value Added Tax	3.7	3.6	2.7	3.2	3.7	3.8	3.9	4	4.1
- Excise	0.8	0.7	0.8	0.9	1	1	1	1	1.1
- Others	1	1	1.1	0.9	0.8	0.8	0.9	0.8	0.9
3. Non-tax revenue (w/o privatization)	1.8	1.6	1.2	1.2	1.3	1.4	1.6	1.9	2
4. Total expenditure and net lending	14.8	16.2	16.6	17.2	16.7	16.6	15.7	14.8	14.3
5. Current expenditure	9	10.5	12.1	11.6	10.8	10.6	10.4	10.1	9.8
- Personnel 3/	4.2	4	3.5	4.8	5.2	5.6	5.9	6.1	6.3
- Subsidies	0.3	2.6	4.7	3	1.9	1.4	1.1	0.8	0.5
- Others	4.5	3.8	4	3.7	3.6	3.7	3.4	3.1	2.9
6. Current Balance	6.8	5.8	3.3	2.7	4.7	4.9	5.5	6.3	7
7. Development expenditure & net lending	5.8	5.8	4.5	5.6	6	6	5.3	4.7	4.6
8. Overall balance (excl. interest on bank restructuring and privatization)	1	0	-1.2	-2.9	-1.3	-1.1	0.2	1.6	2.4
10. Interest on bank restructiring 4/	0	0	0.8	3.4	3.6	3	2.4	3.5	3.3
11. Privatization proceeds	0	0	0.2	1.2	0.6	0.5	0.5	0.8	0.8
12. Surplus/ Deficit (overal balance)	1	0	-1.9	-5.1	-4.3	-3.6	-1.8	-1.1	-0.1
13. Financing	-1	0	1.9	5.1	4.3	3.6	1.8	1.1	0.1
- Domestic financing	-0.2	0.2	-2.7	0	0	0	0	0	0
- Recovery of bank assets	0	0	0	1.6	2.1	2.4	1.8	1.5	0.4
- Foreign (net)	-0.8	-0.2	4.6	3.5	2.2	1.2	0	-0.4	-0.3
14. Government debt	22.9	65.2	74.9	97.8	90.6	83.5	74.7	65	56.6
- Foreign	22.9	65.2	58.6	49.3	46.5	43.2	38.1	33.3	29.1
- Domestic			16.3	48.5	44.1	40.3	36.6	31.7	27.6

1/ This presentation follows IMF conventions

2/ Estimates are updated from the Government's presentation to the CGI (July 1999)

3/ Central and regional government

4/ Starting in year 02/03 this figure includes amortization of bank recapitalization costs

Source : Looking To The Future Of The Indonesian Economy, National Development Planning Agency, RI, 1999, p. 51

Table VIII-6   Summary of Savings-Investment
(percent of GNP)

	1996/1997	1997/1998	1998/1999	1999/2000	2000/2001	2001/2002	2002/2003	2003/2004	2004/2005
A. Total Investment	33.4	29.8	13.6	17.4	18.9	20.5	21.2	22.6	24.3
1. Government	6	6.1	5	5.7	6.1	6.1	5.4	4.8	4.7
2. Private	27.5	23.7	8.5	11.7	12.8	14.4	15.8	17.8	19.6
B. Total Saving	33.4	29.8	13.6	17.4	18.9	20.5	21.2	22.6	24.3
1. Domestic Saving	29.6	28.1	11.9	19.4	19.4	20.1	20.1	21	22.5
a. Government	7	6.1	3.9	2.3	3.2	3.1	4.2	5.8	7.5
b. Private	22.6	22	8	17.1	16.2	17	15.8	15.2	14.9
2. Foreign Saving	3.9	1.7	1.7	-2	-0.6	0.4	1.1	1.6	1.8

Source : Looking To The Future Of The Indonesian Economy, National Development Planning Agency, RI, 1999, p. 52

Table VIII-7   Production Target, Average Productivity, Paddy, Corn and Soybean's Harvest Area in 1999, 2000 and 2001

Cultivation Season (CS)	Production (000 tons)			Average Productivity (quintal/ha)			Harvest Area (000 ha)		
	PMI	PAT	Total	PMI	PAT	Total	PMI	PAT	Total
Paddy									
CS 1998/1999	32,170	926	33,096	46.0	25.0	44.9	6,993	371	7,364
CS 1999	17,893	1,011	18,904	45.3	25.0	43.4	3,948	404	4,352
Total in 1999	50,063	1,937	52,000	45.8	25.0	44.4	10,942	775	11,716
CS 1999/2000	32,227	945	33,172	47.0	25.0	45.8	6,858	378	7,236
CS 2000	18,841	1,287	20,128	45.4	25.0	43.1	4,152	515	4,667
Total in 2000	51,068	2,232	53,300	46.4	25.0	44.8	11,010	893	11,903
CS 2000/2001	33,033	949	33,982	41.7	25.3	45.9	7,021	376	7,397
CS 2001	18,538	1,740	20,277	45.4	25.0	42.4	4,083	696	4,779
Total in 2001	51,570	2,689	54,259	46.4	25.1	44.6	11,104	1,072	12,176
Corn									
CS 1998/1999	6,196	664	6,860	26.0	30.0	26.4	2,380	221	2,601
CS 1999	3,456	684	4,140	26.0	30.0	26.6	1,328	228	1,556
Total in 1999	9,652	1,349	11,000	26.0	30.0	26.5	3,708	450	4,157
CS 1999/2000	6,898	229	7,127	27.4	28.1	27.4	2,519	81	2,601
CS 2000	3,165	1,258	4,423	26.1	30.0	27.1	1,211	419	1,631
Total in 2000	10,063	1,487	11,550	27.0	29.7	27.3	3,730	501	4,231
CS 2000/2001	7,174	238	7,412	27.5	29.2	27.6	2,605	82	2,686
CS 2001	3,195	1,405	4,600	26.2	30.0	27.3	1,219	468	1,688
Total in 2001	10,368	1,644	12,012	27.1	29.9	27.5	3,824	550	4,374
Soybean									
CS 1998/1999	979	105	1,084	12.7	10.0	12.4	771	105	876
CS 1999	864	52	916	12.7	10.0	12.5	680	52	733
Total in 1999	1,843	157	2,000	12.7	10.0	12.4	1,451	157	1,608
CS 1999/2000	1,061	90	1,150	12.9	11.0	12.8	821	81	902
CS 2000	838	112	950	12.9	11.0	12.7	6448	102	750
Total in 2000	1,899	201	2,100	12.9	11.0	12.7	1,470	183	1,653
CS 2000/2001	1,098	93	1,191	13.0	11.0	12.8	845	84	929
CS 2001	858	125	983	13.0	11.0	12.7	660	114	774
Total in 2001	1,956	215	2,174	13.0	11.0	12.8	1,504	198	1,702

Source: Pembangunan Pertanian Era Reformasi (Agriculture Development in Reformation Era) by Prof. Dr. Ir. H. Soleh Solahuddin, MSc.

Table VIII-8   Targets of Livestock Population in 1999, 2000 and 2001

Livestocks	Population (000)		
	1999	2000	2001
Beef catle	12.118	12.547	12.771
Cow	334	354	361
Bull	2.918	3.088	3.096
Goat	13.949	15.611	13.126
Sheep	7.488	8.512	8.803
Pig	8.813	8.837	9.048
Horse	575	587	558
Purebred chicken	271.488	279.823	286.455
Laying pullet	41.009	46.659	45.446
Chicken broiler	211.653	172.497	131.089
Duck	26.119	32.977	33.914

Source: Pembangunan Pertanian Era Reformasi (Agriculture Development in Reformation Era) by Prof. Dr. Ir. H. Soleh Solahuddin, MSc.

Table VIII-9   Targets of Horticulture Production in 1999 (Ton)

Commodity	"Penumbuhan Sentra"	"Pemantapan Sentra"	Others	Total
Fruits	**50,701**	**4,240,095**	**2,812,277**	**7,103,073**
Banana	9,468	1,470,540	1,470,570	2,950,578
Mango	6,630	1,488,220	595,288	2,090,138
Orange	21,658	668,360	439,219	1,129,237
Pineapple	1,368	591,720	295,860	888,948
Mangosteen	11,577	21,255	11,340	44,172
Vegetables	**312,995**	**4,547,497**	**2,214,309**	**7,074,801**
Potato	60,174	958,985	480,945	1,500,104
Cabbage	135,868	1,251,762	678,245	2,065,875
Chili	0	1,071,336	435,677	1,507,013
Red onion	2,662	611,043	320,749	934,454
Tomato	108,531	606,082	276,469	991,082
Mushroom	5,760	48,289	22,224	76,273
Decorated plant	**2,000**	**6,755**	**0**	**8,755**
Orchid	2,000	6,755	0	8,755
Medicine plant	**159,678**	**7,600**	**86,891**	**254,169**
Ginger	113,400	3,200	84,718	201,318
Turmeric	46,278	4,400	2,173	52,851

Source: Pembangunan Pertanian Era Reformasi (Agriculture Development in Reformation Era) by Prof. Dr. Ir. H. Soleh Solahuddin, MSc.

Table VIII-10 Targets of Export Volume and Export Value of Fishery in 1999, 2000, 2001, 2002 and 2003

Details	1999	2000	2001	2002	2003	Growth/year (%)
Volume						
a. Sea catching:	677,517	803,666	926,413	1,045,780	1,161,708	14.47
- Tuna	49,517	63,675	77,829	91,967	106,126	21.10
- Skipjack	82,850	102,346	119,968	135,685	149,532	16.01
- Prawn	33,605	34,125	34,645	35,230	35,750	1.56
- Demersal fish	156,645	187,020	215,871	243,198	269,000	14.52
- Small Pelagis fish	224,700	285,200	348,700	406,200	466,700	20.13
- Others	130,200	131,300	132,400	133,500	134,600	0.83
b. Sea cultivation	76,033	121,322	172,338	247,215	316,475	43.27
- Seaweed	70,560	113,460	160,624	230,880	293,900	43.35
- White kakap	4,320	5,940	8,640	11,340	15,660	38.07
- Kerapu	1,152	1,920	3,072	4,992	6,912	56.91
- Pearl	1.32	1.84	2.31	2.63	3.2	25.12
c. Brackish water Cultivation	64,050	122,868	232,652	334,663	474,640	66.71
d. Fresh water cultivation	465	1,560	3,875	8,460	14,070	142.13
- Nila	400	1,200	3,320	7,600	12,920	143.9
- Frog	15	180	285	390	495	305.52
- Fresh water turtle	50	180	270	470	655	105.86
Total	818,065	1,079,416	1,335,278	1,636,118	1,966,893	24,57
Value in US$ (millions)	2,477	3,706	5,670	7,648	10,187	42,67

Source: Pembangunan Pertanian Era Reformasi (Agriculture Development in Reformation Era) by Prof. Dr. Ir. H. Soleh Solahuddin, MSc.

Table VIII-11 Targets of Fishery Production by Production Method, 1999, 2000, 2001, 2002 and 2003

Details	1999	2000	2001	2002	2003	Growth/year (%)
a. Sea fishery	4,391,329	5,140,883	5,932,668	6,954,755	7,917,352	15.88
1. Catching	3,678,888	3,996,456	4,311,786	4,625,537	4,955,134	7.73
2. Cultivation	712,441	1,144,427	1,620,882	2,329,218	2,962,218	43.29
b. Land fishery	1,330,482	1,447,185	1,613,205	1,817,385	2,040,689	11.3
1. Brackish water cultivation	527,610	588,470	691,830	825,600	967,230	16.4
2. Fresh water cultivation	394,672	438,085	486,275	539,765	599,139	11.00
3. Public waters	408,200	420,630	435,100	452,020	474,320	3.83
Total	5,721,811	6,588,068	7,545,873	8,772,140	9,958,041	14.86

Source: Pembangunan Pertanian Era Reformasi (Agriculture Development in Reformation Era) by Prof. Dr. Ir. H. Soleh Solahuddin, MSc.

Table VIII-12   Targets of Horticulture Development Area Through Program "Penumbuhan Sentra" Under Gema Hortina 1999, 2000, 2001, 2002 and 2003

	Commodity	Size Area (Ha)				
		1999	2000	2001	2002	2003
Vegetables	Potato	3,808	7,617	11,426	15,235	19,044
	Cabbage	6,012	12,024	18,036	24,048	30,060
	Chili	0	0	0	0	0
	Red onion	337	674	1,011	1,348	1,685
	Tomato	9,120	18,241	27,362	36,483	45,604
	Mushroom	128	257	386	515	644
Fruits	Banana	9,468	9,468	9,468	9,468	9,468
	Mango	6,630	6,630	6,630	0	0
	Orange	21,658	21,658	21,658	0	0
	Pineapple	1,368	1,368	1,368	1,368	1,368
	Mangosteen	11,577	11,577	11,577	0	0
Decorated plants	Orchid	100	50	100	68	50
Madicine plants	Ginger	11,340	14,418	35,653	24,398	26,166
	Turmeric	2,571	5,404	6,179	2,653	3,120

Source: Pembangunan Pertanian Era Reformasi (Agriculture Development in Reformation Era) by Prof. Dr. Ir. H. Soleh Solahuddin, MSc.

Table VIII-13   Targets of Horticulture Development Area Through Program "Pemantapan Sentra" Under Gema Hortina 1999, 2000, 2001, 2002 and 2003

	Commodity	Size Area (Ha)				
		1999	2000	2001	2002	2003
Vegetables	Potato	47,949	56,690	65,658	74,863	84,314
	Cabbage	50,070	61,005	72,166	83,564	95,207
	Chili	107,134	119,102	131,625	144,721	158,414
	Red onion	61,104	65,230	75,669	83,435	91,539
	Tomato	40,405	53,021	65,799	78,745	91,846
	Mushroom	805	1,005	1,207	1,412	1,619
Fruits	Banana	24,509	33,977	43,445	52,913	62,381
	Mango	74,411	81,041	87,671	94,301	94,301
	Orange	19,096	40,754	62,412	84,070	84,070
	Pineapple	14,796	16,161	17,529	18,897	20,265
	Mangosteen	1,417	12,994	24,571	36,148	36,148
Decorated plants	Orchid	193	293	443	643	431
Madicine plants	Ginger	2,000	19,425	18,858	33,771	44340
	Turmeric	200	2,871	4,475	9,250	10,795

Source: Pembangunan Pertanian Era Reformasi (Agriculture Development in Reformation Era) by Prof. Dr. Ir. H. Soleh Solahuddin, MSc.

Table VIII-14   Estimation of Supply-Demand Balance of Some Major Vegetables (1000 ton)

	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Cabbage											
a. Supply (S)	1604	1731	1866	2013	2190	2384	2594	2823	3072	3343	3638
b. Demand (D)	480	518	562	614	675	747	834	939	1069	1230	1435
c. Balance (S-D)	1124	1213	1304	1399	1515	1637	1760	1884	2003	2113	2203
Tomato											
a. Supply (S)	373	402	434	468	509	554	603	656	714	777	846
b. Demand (D)	497	548	611	690	788	913	1074	1284	1564	1944	2470
c. Balance (S-D)	-124	-146	-177	-222	-279	-359	-471	-628	-850	-1167	-1624
Red Onion											
a. Supply (S)	669	713	759	809	868	930	997	1069	1146	1229	1317
b. Demand (D)	566	611	665	727	801	889	997	1128	1290	1495	1758
c. Balance (S-D)	103	102	94	82	67	41	0	-60	-144	-266	-441
Chili											
a. Supply (S)	329	331	335	338	342	345	349	353	357	360	364
b. Demand (D)	370	401	438	482	534	596	673	770	892	1049	1258
c. Balance (S-D)	-41	-70	-103	-144	-192	-251	-324	-417	-535	-689	-894
Garlic											
a. Supply (S)	133	139	146	152	159	167	174	182	190	199	209
b. Demand (D)	114	122	130	140	151	163	178	195	214	237	264
c. Balance (S-D)	19	17	16	12	8	4	-4	-13	-24	-38	-55

Table VIII-15(1/2)

Table VIII-15(1/2) Average Monthly Prices of Vegetables in Some Markets

Market	Commodity	1997												1998											
		Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
Caringin	Cabbage(Gepeng)	438	331	426	186	183	227	258	400	721	961	985	431	390	293	1,188	1,695	2,745	1,199	548	456	416	330	1,181	1,490
(Bandung)	Potato	790	798	831	970	999	1,118	1,192	1,186	1,000	1,006	1,356	1,582	1,408	880	1,198	1,837	2,220	1,834	2,477	2,566	2,487	2,365	2,763	2,846
	Red onion	965	1,196	1,357	1,146	1,042	1,120	1,567	1,131	890	920	1,310	1,995	2,132	1,623	3,686	6,033	6,640	8,006	7,322	6,593	8,548	9,431	5,585	5,340
	Tomato	978	1,076	1,019	371	237	421	334	537	761	568	503	391	369	1,193	1,734	3,023	2,265	1,155	588	782	1,002	1,030	1,883	2,401
	Chili, small	2,120	2,136	3,676	3,442	3,375	2,836	2,250	2,283	2,970	4,310	3,947	5,425	2,471	1,807	4,189	2,309	2,900	5,281	6,657	9,512	6,192	5,281	8,392	7,426
Kramat Jati	Cabbage(Gepeng)	433	371	400	358	349	300	276	324	620	983	1,146	707	463	537	1,216	2,085	2,418	1,563	853	778	610	500	985	1,747
(Jakarta)	Potato	958	885	857	959	1,002	1,101	1,122	1,163	1,184	1,180	1,195	1,498	1,583	1,376	911	1,859	2,318	2,354	2,645	2,955	2,789	2,598	2,763	3,025
	Red onion	1,221	1,354	1,421	1,403	1,416	1,481	1,555	1,516	1,020	1,115	1,306	2,219	2,519	2,060	3,468	6,071	6,606	7,464	8,361	7,035	9,300	10,136	7,062	6,527
	Tomato	1,326	1,225	1,147	638	528	638	487	661	1,005	837	810	582	867	1,946	2,387	4,195	2,793	1,579	928	978	1,111	1,366	2,613	2,875
	Chili, small	2,000	1,819	3,253	3,008	3,141	2,797	2,938	2,582	3,552	4,256	3,550	3,682	2,416	2,280	3,776	2,234	3,062	6,139	10,095	9,575	6,977	5,809	10,574	9,965
Lembang	Cabbage(Bulat)	461	322	435	202	146	218	228	296	676	941	876	486	440	329	1,522	1,762	1,894	1,213	670	506	453	396	1,057	1,671
(Bandung)	Potato	765	787	751	859	1,028	1,072	1,151	1,083	982	995	1,285	1,467	1,277	1,025	1,201	1,600	1,993	1,842	2,295	2,588	2,416	2,345	2,474	2,853
	Red onion																								
	Tomato	933	926	1,120	364	267	376	261	434	713	635	394	408	618	1,329	1,977	3,396	2,568	1,178	627	717	1,073	1,178	1,911	2,427
	Chili, small	1,945	1,610	3,495	3,190	3,220	3,046	2,346	2,434	2,780	4,024	4,897	4,295	3,968	2,218	3,109	3,166	3,049	4,491	6,765	7,581	7,246	5,301	8,536	6,696
Ciwidey	Cabbage(Gepeng)	374	276	323	195	115	199	228	258	480	818	944	680	292	243	942	1,552	1,763	1,275	601	449	505	337	894	1,385
(Bandung)	Potato	744	768	741	752	895	963	1,022	1,100	1,012	892	1,229	1,228	1,341	1,160	1,136	1,513	1,889	1,766	2,234	2,582	2,343	2,183	2,427	2,657
	Red onion																								
	Tomato																								
	Chili, small	1,825	1,670	2,789	3,176	2,685	2,526	2,129	2,724	2,748	3,691	4,555	3,852	2,971	2,217	2,811	3,132	1,778	4,009	6,321	8,675	9,124	3,781	6,054	5,400
Cipanas	Cabbage(Gepeng)	392	317	344	257	164	202	221	242	561	844	861	452	329	321	897	1,357	1,550	917	872	510	399	292	1,031	1,265
(Cianjur)	Potato																								
	Red onion																								
	Tomato																								
	Chili, small	1,984	1,757	3,876	3,454	3,355	2,964	2,905	2,829	3,311	4,401	4,311	4,214	2,476	2,073	3,045	1,935	2,648	5,042	7,231	8,827	6,688	4,765	8,333	6,525
Cikajang	Cabbage(Gepeng)	357	224	313	132	166	175	173	246	513	700	855	439	249	204	772	1,403	1,603	1,023	430	281	287	210	871	1,142
(Garut)	Potato	663	633	710	715	837	990	1,183	1,138	1,045	881	1,160	1,120	1,167	911	781	1,440	1,799	2,219	2,203	2,221	2,000	2,031	2,344	2,446
	Red onion																								
	Tomato	953	911	958	333	218	367	284	542	630	491	456	303	472	935	1,331	2,711	2,425	1,159	475	637	832	907	1,667	2,003
	Chili, small	2,661	1,396	2,879	2,133	2,195	3,052	2,315	2,243	2,536	3,349	4,395	3,786	2,637	853	2,975	1,463	1,456	4,066	7,044	7,120	4,781	3,926	8,052	5,696

Table VIII-15(2/2) Average Monthly Prices of Vegetables in Some Markets

Market	Commodity	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.	Ave	CV	SD
		1999														
Caringin	Cabbage(Gepeng)	1,039	1,244	767	630	888	903	432	344	337	339	1139	1658	756	302,179	550
(Bandung)	Potato	2,929	2,742	2,896	2,979	2,364	2,313	2,477	2,092	2,006	2,403	2,930	2,566	1,900	577,321	760
	Red onion	6,889	8,496	7,238	4,562	4,344	3,985	3,035	1,988	1,304	1,856	2,049	1,648	3,694	7,563,826	2,750
	Tomato	684	919	1,208	808	1,268	1,090	609	601	626	552	1299	2037	1,009	416,339	645
	Chili, small	8,689	17,375	15,962	11,521	10,180	7,960	5,271	2,686	2,006	2,058	3,863	4,430	5,366	14,419,198	3,797
Kramat Jati	Cabbage(Gepeng)	1,532	1,260	1,041	918	955	854	819	569	479	548	939	1590	876	274,117	524
(Jakarta)	Potato	3,550	3,110	3,100	3,062	2,889	2,550	2,427	2,098	1,928	2,970	2,939	3,065	2,055	750,891	867
	Red onion	7,667	9,270	8,164	5,876	5,366	4,400	3,694	2,465	1,735	1,117	2,130	3,005	4,126	8,682,539	2,947
	Tomato	1,017	1,333	1,727	1,307	1,518	1,560	938	791	903	1336	2175	2548	1,408	669,236	818
	Chili, small	12,678	17,893	17,318	11,667	9,684	8,357	6,175	2,768	2,006	2,356	2,456	2,330	5,699	18,839,501	4,340
Lembang	Cabbage(Bulat)	921	983	921	703	769	668	431	316	255	273	563	2140	726	268,289	518
(Bandung)	Potato	2,536	2,495	2,233	2,204	2,302	2,405	1,723	1,671	1,650	1,863	2,538	2,090	1,718	419,538	648
	Red onion															
	Tomato	583	741	1,197	593	1,324	1,098	359	345	320	259	727	1874	979	541,479	736
	Chili, small	9,076	17,552	15,038	10,192	7,180	6,638	3,909	2,200	1,150	1,154	3,256	1,910	4,963	13,256,435	3,641
Ciwidey	Cabbage(Gepeng)	1,160	1,110	806	611	900	793	457	345	290	311	688	1530	670	194,167	441
(Bandung)	Potato	2,781	3,015	2,706	3,035	2,406	2,294	2,020	2,118	2,048	2,233	3,017	1,870	1,781	568,647	754
	Red onion															
	Tomato															
	Chili, small	7,757	15,612	16,635	11,944	9,426	8,260	5,740	2,048	1,684	1,743	2,411	1,520	4,873	14,635,207	3,826
Cipanas	Cabbage(Gepeng)	934	1,108	910	667	828	791	496	414	375	370	689	1370	654	141,192	376
(Cianjur)	Potato															
	Red onion															
	Tomato															
	Chili, small	8,605	15,900	16,980	9,325	9,380	8,454	4,498	2,599	1,530	2,170	2,757	1,200	5,065	13,820,167	3,718
Cikajang	Cabbage(Gepeng)	948	993	553	478	663	798	437	264	193	205	764	1415	569	160,783	401
(Garut)	Potato	2,800	2,738	2,651	2,708	2,098	2,110	2,024	1,817	1,804	2,121	2,553	2,233	1,675	495,634	704
	Red onion															
	Tomato	602	775	1,136	696	1,070	955	493	453	385	344	1064	1858	884	359,699	600
	Chili, small	6,757	14,771	14,036	8,781	7,422	7,298	5,236	1,732	1,154	1,633	2,012	1,558	4,317	11,064,721	3,326

x :Price of the Month

n : Number of the Data (36)

$$Ave = \frac{\sum x}{n}$$

$$CV = \frac{n\sum x^2 - \left(\sum x\right)^2}{n(n-1)}$$

$$SD = \sqrt{\frac{n\sum x^2 - (\sum x)^2}{n(n-1)}}$$

Table VIII-16   Vegetables Harvested Area Development in Indonesia,1985-1994 (Ha)

Commodity	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	Rate of Growth (%/year)
Red onion	68263	69579	65164	63365	60399	70081	70989	68913	74656	84630	2,7
Chili	264321	359821	230429	340976	438398	162283	168061	162519	157499	177639	2,6
Garlic	12308	16056	15729	15988	18915	18483	21128	22239	20011	20809	6,6
Cabbage	39713	44342	44963	43134	47859	52287	52675	55316	60262	67350	6,2
Tomato	43276	57670	52966	62302	75301	40306	43436	44620	48645	50640	4,5

Table VIII-17   Rate of Growth of Vegetables Production in Indonesia,1985-1994 (Ton)

Commodity	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	Rate of Growth (%/year)
Red onion	361058	382117	412522	379380	399488	495183	509013	528311	577264	636864	6,8
Chili	341564	438699	436189	448722	489503	287867	328061	323445	315385	724445	15,4
Garlic	61143	85096	87648	95797	107407	108864	13874	137864	127974	134940	9,9
Cabbage	665445	820357	835556	771273	926110	1071756	974553	1213365	1266035	1417977	9,5
Tomato	160018	189406	187430	192200	238202	207549	235285	228726	226208	476124	16,8

Table VIII-18   Vegetables Productivity Development in Indonesia, 1985-1994 (Ku/ha)

Commodity	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	Rate of Growth (%/year)
Red onion	52.892	54.918	63.305	59.872	66.141	70.658	71.703	76.663	77.323	75.252	4,3
Chili	12.922	12.192	18.929	13.159	11.165	17.738	19.52	19.901	20.024	40.781	19,9
Garlic	49.677	52.999	55.723	59.918	56.784	58.899	63.363	61.991	63.951	64.846	5,1
Cabbage	167.56	185.00	185.83	178.8	193.5	205.17	185.01	219.35	210.08	210.53	2,9
Tomato	36.976	32.843	35.386	30.849	31.633	51.492	54.168	51.26	46.501	94.021	15,8

Table VIII-19   The Availability of Consumption Vegetables Per Capita in Indonesia 1984-1993 (kg/cap/year)

Vegetables	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	Rate of growth (%/year)
Red onion	0,76	1,49	1,61	1.03	0.90	1.03	1.28	1.27	1.33	1.4	1.91
Chili	1,77	1,98	2,55	2,45	2,45	2,49	2,88	3,12	1,33	3,71	4,19
Garlic	0,31	0,28	0,32	0,32	0,33	0,36	0,39	0,44	0,46	0,44	5,43
Cabbage	3,07	3,48	4,30	4,34	3,84	4,54	5,90	4,71	5,64	5,74	6,19
Tomato	0,78	0,88	1,02	0,99	1,00	1,21	1,53	1,65	1,94	1,73	9,97

Resources: Neraca Bahan Makanan (BPS, 1984-1993)

Table VIII-20   Trends of Average Consumption Level in Indonesia (kg/capita/year)

Commodity	City			Rural			City + Rural		
	1987	1990	1993	1987	1990	1993	1987	1990	1993
Cabbage	2,3	0,7	1,9	2,2	0,9	1,9	2,2	0,8	1,9
Red Onion	2,5	0,2	2,5	2,0	0,2	2,1	2,2	0,2	2,2
Garlic	0,4	0,1	0,6	0,2	0,1	0,4	0,3	0,1	0,4
Chili	2,4	2,4	1,7	2,1	2,5	1,6	2,3	2,4	1,5
Tomato	2,8	3,2	5,8	1,4	3,2	2,7	1,9	3,2	3,9

Resources : Susenas

**Table VIII-21   Vegetables Consumption Level
According to Expenditure Group (kg/cap/year)**

		Cabbage	Red onion	Garlic	Small chili	Red/green chili	Tomato
City							
Low	1987	2,2	2,3	0,3	0,7	2,5	2,7
	1990	0,7	0,2	0,1	0,1	2,9	3,0
	1993	1,3	1,7	0,3	0,9	1,0	3,1
Middle	1987	2,1	2,4	0,4	0,9	2,5	2,8
	1990	0,6	0,2	0,1	0,1	1,6	2,8
	1993	1,7	2,3	0,5	0,9	1,6	5,1
High	1987	2,8	3,3	0,4	1,2	2,4	2,8
	1990	0,7	0,2	0,1	0,2	1,3	4,3
	1993	2,5	3,1	0,8	1,0	2,2	8,0
Rural							
Low	1987	2,1	1,8	0,2	1,0	2,2	1,5
	1990	1,0	0,2	0,1	0,2	3,1	3,4
	1993	1,4	1,7	0,3	1,2	0,9	1,7
Middle	1987	2,1	1,8	0,2	1,1	2,0	1,3
	1990	0,9	0,2	0,1	0,2	1,6	2,4
	1993	2,2	2,4	0,4	1,3	1,6	3,4
High	1987	2,6	2,8	0,3	1,5	2,2	1,4
	1990	1,0	0,2	0,1	0,2	1,6	4,0
	1993	3,4	3,2	0,6	1,4	2,3	5,9

Resources : SUSENAS

Table VIII-22 Main Population and Household Characteristics of the Model Areas

	Characteristics	Unit	Model Areas			
			Mekarjaya	Langensari	Gekbrong	Tanjungkarya
1	Total population	Head	4,314	8,592	5,511	6,234
2	Total household	Unit	1,140	2,112	1,353	1,379
3	Average size of family	Head	3.78	4.06	4.07	4.52
4	Female-male ratio	%	110.7	124.0	139.7	106.2
5	Household headed by woman	%	13.7	2.7	0.0	12.5
6	Absenteesm	%	<1	1	2	<1
7	Adults with no-formal education or not completed primary school	%	30	12	23	27

Table VIII-23 Main Occupation Distribution of Economically Active Population of the Model Areas

	Occupations	Model Areas (%)			
		Mekarjaya	Langensari	Gekbrong	Tanjungkarya
1	Farmer	41.5	48.7	45.7	47.7
2	On-farm wage labor	17.6	7.0	25.0	10.3
3	Off-farm wage labor	2.1	5.2	1.1	1.9
4	Salary worker	6.3	1.7	3.3	0.9
5	Private business	2.1	7.8	5.4	10.3
6	Others	30.3	29.6	19.6	29
	Total	100.0	100.0	100.0	100.0

Table VIII-24 Percentage of Households Who Usually Purchase Food for Home Consumption

	Food	Model Areas (%)			
		Mekarjaya	Langensari	Gekbrong	Tanjungkarya
1	Cereals	43.0	92.0	100.0	50.0
2	Vegetables	58.0	22.0	23.0	21.0
3	Root and Tuber Crops	22.0	67.0	30.0	41.0
4	Meat	93.0	97.0	96.0	97.0
5	Fish	81.0	61.0	96.0	62.0

Figures

Figure VIII-1(1/2) Monthly Price Price Fluctuations at Various Market Levels

Average Price - Cabbage

Legend: Caringin, Kramat Jati, Kramat Jati, Lembang, Ciwidey, Cipanas, Cikajang

	1997	1998	1999
Caringin	462.25	994.25	810
Kramat Jati	522.25	1146.25	958.6666667
Kramat Jati			
Lembang	440.5833333	992.75	618.4545455
Ciwidey	407.5	853.1666667	679.1818182
Cipanas	404.75	811.6666667	689.2727273
Cikajang	357.75	706.25	572.3636364

Year

Coefficeint of Variation - Cabbage

Legend: Caringin, Kramat Jati, Kramat Jati, Lembang, Ciwidey, Cipanas, Cikajang

	1997	1998	1999
Caringin	78573.29545	548873.1136	174794
Kramat Jati	81560.02273	438988.2045	127996.0606
Kramat Jati			
Lembang	70121.7197	357399.4773	72935.87273
Ciwidey	71833.18182	280755.6061	94737.76364
Cipanas	56404.93182	193020.9697	62786.61818
Cikajang	52976.20455	250164.9318	81545.25455

Year

Average Price - Red Onion

Legend: Caringin, Kramat Jati, Kramat Jati, Lembang, Ciwidey, Cipanas, Cikajang

	1997	1998	1999
Caringin	1219.916667	5911.583333	3949.5
Kramat Jati	1418.916667	6384.083333	4574.083333
Kramat Jati			
Lembang			
Ciwidey			
Cipanas			
Cikajang			

Year

Coefficient of Variation - Red Onion

Legend: Caringin, Kramat Jati, Kramat Jati, Lembang, Ciwidey, Cipanas, Cikajang

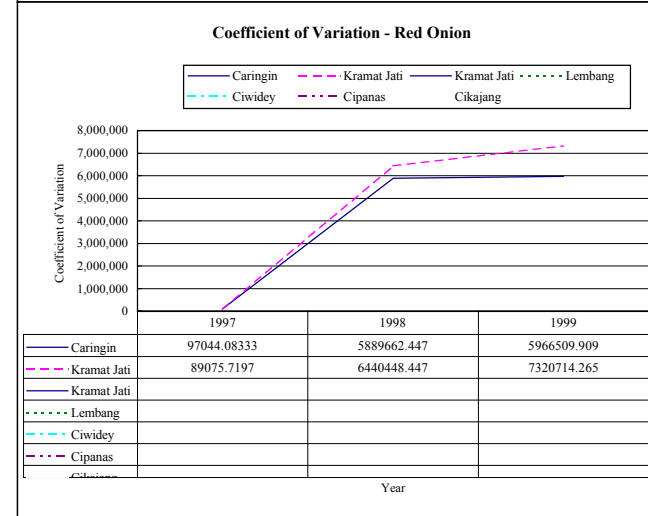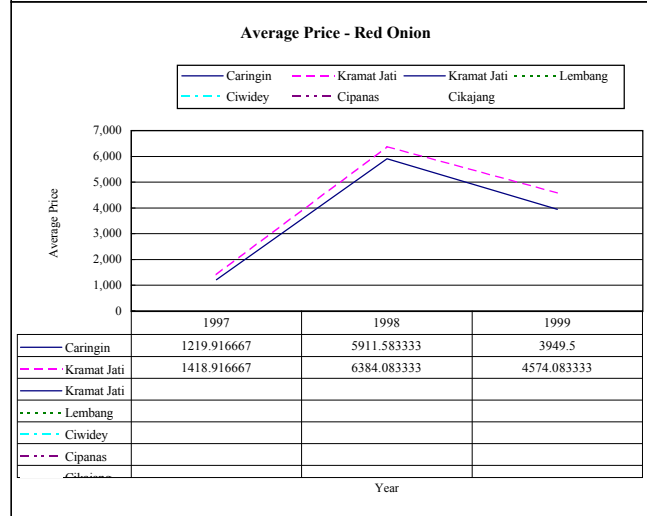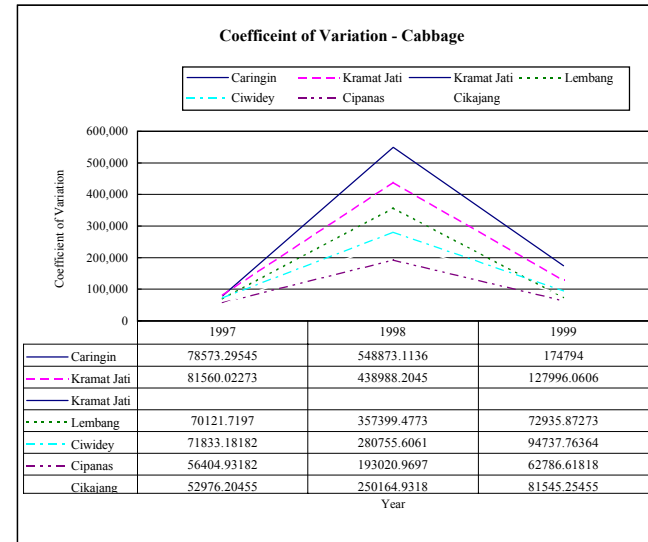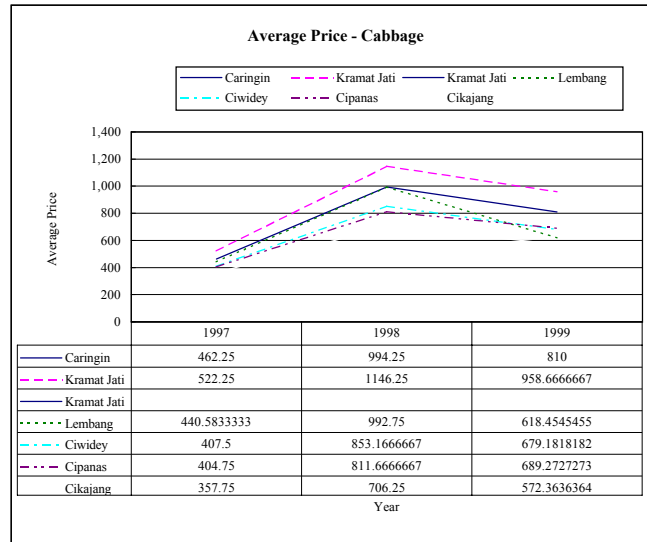|	1997	1998	1999
Caringin	97044.08333	5889662.447	5966509.909
Kramat Jati	89075.7197	6440448.447	7320714.265
Kramat Jati			
Lembang			
Ciwidey			
Cipanas			
Cikajang			

Year

Figure VIII-1(2/2) Monthly Price Price Fluctuations at Various Market Levels

Average Price - Tomato

Legend: Caringin, Kramat Jati, Kramat Jati, Lembang, Ciwidey, Cipanas, Cikajang

	1997	1998	1999
Caringin	599.6666667	1452.083333	975.0833333
Kramat Jati	823.6666667	1969.833333	1429.416667
Kramat Jati			
Lembang	569.25	1583.25	686
Ciwidey			
Cipanas			
Cikajang	537.1666667	1296.166667	724.8181818

Coefficient of Variation - Tomato

Legend: Caringin, Kramat Jati, Kramat Jati, Lembang, Ciwidey, Cipanas, Cikajang

	1997	1998	1999
Caringin	83275.51515	654459.5379	188768.2652
Kramat Jati	82342.60606	1052446.152	277259.5379
Kramat Jati			
Lembang	84431.84091	770921.1136	140136.8
Ciwidey			
Cipanas			
Cikajang	72596.87879	565325.9697	86280.56364

Average Price - Chili Small

Legend: Caringin, Kramat Jati, Kramat Jati, Lembang, Ciwidey, Cipanas, Cikajang

	1997	1998	1999
Caringin	3230.833333	5201.416667	7666.75
Kramat Jati	3048.166667	6075.166667	7974
Kramat Jati			
Lembang	3106.833333	5177.166667	7031.363636
Ciwidey	2864.166667	4689.416667	7569.090909
Cipanas	3280.083333	4965.666667	7472.545455
Cikajang	2745	4172.416667	6439.272727

Coefficient of Variation - Chili Small

Legend: Caringin, Kramat Jati, Kramat Jati, Lembang, Ciwidey, Cipanas, Cikajang

	1997	1998	1999
Caringin	1024761.061	6407926.083	27668970.02
Kramat Jati	483683.2424	11052646.7	34941308.73
Kramat Jati			
Lembang	941862.5152	4520402.333	30561544.45
Ciwidey	713385.9697	5942164.992	29899125.09
Cipanas	729732.9924	6330550.061	28899592.87
Cikajang	660698.9091	5843529.72	22865713.82

F - VIII - 2