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REPORT OF

THE REGIONAL WORKSHOP ON THE ROLE OF PRIVATE SECTOR IN AGRICULTURE DEVELOPMENT AND IN THE POULTRY INDUSTRY : IMPACT ANALYSIS AND POLICY ISSUES

ASEAN Agricultural Development Planning Centre
Kasetsart University Campus
Bangkok, Thailand
1992

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PART I

THE REPORT

Report of the Regional Workshop on the Role of Private Sector in Agriculture Development and in the Poultry Industry: Impact Analysis and Policy Issues

I. INTRODUCTION

Purpose

1. The regional workshop on the Role of Private Sector in Agriculture Development and in the Poultry Industry held on 22-25 September, 1992, in Bangkok, Thailand, was organized in order to present and discuss the reports of the studies on (i) the role of private sector in agriculture development, and (ii) the role of the private sector in the development of the poultry industry being conducted in the ASEAN countries.

Attendance

2. The regional workshop was participated by delegates and participants coming from the government and private sectors of the ASEAN countries. The ASEAN ADPC Director and senior staff also attended the regional workshop. The list of delegates / participants appears in Annex A.

Opening Session

3. Mr. Yookti Sarikaphuti, the Permanent Secretary of the Ministry of Agriculture and Cooperatives of Thailand, presided over the Opening Session where he also delivered an Opening Address. Mr. Nguen Srisuraksa, the ASEAN ADPC Director, also gave a Welcome Remarks during the Opening Session. The full text of both the Opening Address and Welcome Remarks appears in Annex B.

Program

4. The Program of the regional workshop appears in Annex C.

II. COUNTRY STUDY REPORTS

5. A total of nine country study reports were presented and discussed in the regional workshop. The study reports covering the countries of Indonesia, Malaysia, the Philippines, Singapore and Thailand are contained in Part II of this Report.

III. CONCLUSIONS AND RECOMMENDATIONS

Role of Private Sector in Agriculture Development

6. Due to the industrialization taking place in most ASEAN economies, it has been noted that agriculture's relative contribution to the national economy (in the gross domestic product and employment) showed declining trends. This is particularly evident and relatively pronounced in Thailand and Malaysia and to some extent in Indonesia and the Philippines. Singapore's agriculture sector on the other hand traditionally plays a minor role in the country's economy where at present its contribution to GDP is less than 1 percent.

7. The private sector has long been playing varied and important roles in the development of agriculture and its sub-sectors of the ASEAN countries. For example, the significant development of the commercial plantation / perennial crops in Malaysia had been traced largely to private sector's investment and managerial capabilities. In Thailand, the different groups that composed the private sector provide wide-ranging services such as promoting people's empowerment, financing agricultural investments, bridging operations and others. The rapid agribusiness growth and expansion in the Philippines can be traced to investments from associations, cooperatives and large corporate firms. In terms of impact assessment of their (private sector) role in agriculture development, the Indonesian case study suggested one impact indicator - the incremental capital output ratio - the increase in capital over increase in value-added. However, further in-depth studies should be conducted if we are to appreciate fully the contribution of the private sector in the development process.

8. Further development of agriculture has been constrained in general by some macro-economic policies (e.g., over-valued exchange rate and relatively lower proportion of public sector spending for agriculture compared to other sectors) of many ASEAN countries which favor the non-agriculture sector. Under this situation, it induces private sector investment in the protected non-agriculture sectors and would therefor result in the slowing down of the agriculture sector's growth and expansion.

9. On the other hand, many of the ASEAN countries have their respective agricultural policies and various incentive programs in place with the ultimate objective of attracting greater private sector participation and investment in agriculture. However, ASEAN countries shared the view that as much as possible, there should be very minimal government interventions (e.g., in prices and markets), if any, in order to promote balanced-growth among the different sectors of the economy.

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10. In this regard, continuing policy reforms and program reviews should be carefully undertaken to conform with recent global trend of open-market economies and in the end come up with minimum government interventions. Some of the policies and programs that need further review include trade, taxation and transportation policies along with the other macro-economic (exchange rate, public expenditure and resource valuation) policies in the Philippines; the various incentive acts in Malaysia; monetary and investment policies in Indonesia; and agricultural credit policy in Thailand.

Role of Private Sector in the Development of the Poultry Industry

11. The poultry industry in the ASEAN countries is one of the agricultural sub-sectors where the private sector (particularly the integrators and contract growers) is highly visible. It is also one sub-sector that has experienced rapid expansion and growth in recent years. Aside from being the major source of protein meat of the consuming population, the poultry industry has gained its importance as a foreign exchange earner of the agriculture sector in ASEAN countries like Thailand and Malaysia.

12. The favorable growth of the region's poultry industry has been attributed, among others, to the improved-efficiency of the industry as a whole resulting from good animal husbandry, availability of improved-breeds and modern technology.

13. The poultry industry's production of broiler is currently dominated by large-scale operators / integrators; and contract growing has become a very a common form of contractual production arrangement in the region. The integrators and large-scale operators have been instrumental, among others, in:

a) Disseminating industry technology to independent and other small- and medium-scale poultry raisers.

b) Providing the needed investments in the forward and backward linkages of the industry such as in feed milling, veterinary supplies, processing, distribution and marketing activities.

c) Expanding domestic and export markets.

d) Initiating research and development (R & D) activities.

14. Some ASEAN countries imposed import tariffs on feed ingredients / feed crops; such as soybean, fish meal, etc., which in effect increases feed costs and subsequently affects the profitability of the livestock and poultry industry. On the other hand, these same ASEAN countries are also providing incentives in order to promote livestock and poultry production considering that the ASEAN region as a whole is still a net-importer of livestock and livestock products. In effect, the above policies have contrasting effects to development of the industry.

15. ASEAN countries likewise provide incentive policies and programs in the form of lower interest rates on capital, tax benefits, etc., in order to enhance further the growth and development of the poultry industry.

16. Some of the other common issues raised were as follows:

a) Directions and responsibilites for research and development (R & D) activities.

b) ASEAN countries' still being import-dependent in their source of poultry breeds; particularly grand parent (GP) and parent stocks (PS), including some of the feedstuff requirments like corn and soybean meal.

c) The increasing capital requirements needed in poultry business in order to operate under economies-of- scale and remain competitive.

d) The inadequacy of government support services and public infrastructure facilities.

e) Limited foreign export markets, trade barriers in importing countries, and common destination of intra-ASEAN market.

f) Socio-economic implications of moving towards greater involvement of integrators and large-scale operators in the industry on the income and employment of independent and other small- and medium-scale poultry raisers.

17. In addressing the issues and problems that cropped- up in the course of the study report presentations and discussions, the regional workshop came up with the following recommendations:

a) That more private sector-led research and development activities (with support from the public sector) should be undertaken especially in the areas of poultry breeding improvement (including local breeds), housing design, feeds

and feeding, and poultry product development.

b) That ASEAN countries through their respective relevant research centers / network should work out for a well-coordinated research program to address the problems and constraints of increasing ASEAN production of feed crops.

c) That ASEAN countries should cooperate each other in joint-sourcing and sharing of material inputs (feed ingredients, vaccines, biologics, etc.) for the livestock and poultry industry, and in joint-export promotion and marketing of poultry products.

d) That ASEAN countries, through joint public-private sector efforts, should periodically organize an ASEAN or a National Poultry Congress as an avenue for regional/national dialogue, consultation and exchange of information on poultry industry development issues and problems including research, planning and policy.

A N N E X U R E S

ANNEX A

Regional Workshop on
the Role of Private Sector in Agriculture Development and in
the Poultry Industry: Impact Analysis and Policy Issues
22 - 25 September 1992
ASEAN ADPC, Bangkok, Thailand

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ANNEX B

Regional Workshop on Role of Private Sector
in Agriculture Development and in the Poultry Industry:
Impact Analysis and Policy Issues
22-25 September, 1992
Bangkok, Thailand

OPENING ADDRESS

by

Mr. Yookti Sarikaphuti
Permanent Secretary
Ministry of Agriculture and Cooperatives
Thailand

Director Nguen, distinguished delegates and participants, ladies and gentlemen:

It is indeed a great pleasure for me to be here among a distinguished group of private sector representatives and government officials from the ASEAN member-countries and to preside over this morning's Opening Session of the Regional Workshop on the Role of Private Sector in Agriculture Development.

At the outset, I wish to join the ASEAN ADPC Director in extending my warm welcome to all of you, especially the foreign delegates and participants from the ASEAN member-countries, to Bangkok and to this Regional Workshop.

Distinguished delegates and participants:

I find the topic of the regional workshop not only important to each ASEAN member-country but also very relevant to the ASEAN framework of regional economic cooperation in food, agriculture and forestry which gives due emphasis on private sector participation in agriculture development.

It has been long recognized that the private sector plays an important role in the development of market-oriented economies. In fact, it is the private sector that propels economic growth, thus, it is aptly considered as the engine of growth.

Even with this recognition accorded to the private sector, it was only in the middle part of the 1980's where the importance of the private sector had been explicitly embodied in the agricultural development plans of the ASEAN member-countries, although prior to this time, we have already known the following facts and figures:

a) That in mixed-economies like the ASEAN

countries, the private sector grows at a faster rate than government, and that the private sector's capacity to invest in agriculture development projects is greater too. For this matter, it has been clearly recognized that private sector dominance is essential for market-oriented economic growth.

b) That the ASEAN member-countries in general have long been luring the private sector to participate more in agriculture development through policy incentives and other necessary interventions.

c) That as far as attracting private sector participation and extent of involvement is concerned, countries in the region somewhat differ in level. For example, we have learned that in Indonesia, policy reforms had been made towards increased-reliance on private sector and on market forces whereby the private sector and the cooperatives are considered as important actors in agriculture development. In the case of Malaysia, although its public sector involvement is a little bit over-extended, private sector involvement has been very prominent in production, processing and marketing of non-plantation agricultural crops, while privatization policy had been in place for some time already. In the Philippines, the private sector is increasingly recognized and supported as the leading partner in agriculture development. In our case in Thailand, since the 1982-1986 development plan, we have already explicitly identified several development areas where the private sector is encouraged to participate.

Ladies and gentlemen:

It is therefore apparent that the private sector will continue to play an important role in agriculture development in the ASEAN in the future. With this, it is therefore commendable that the ASEAN ADPC took the initiative in undertaking some kind of monitoring work to assess the extent and level of private sector participation in the agriculture development of ASEAN countries since very limited information, if any, are available up to this time in regard to private sector role impact assessment. Monitoring and review mechanisms therefore are very important if we are to make some necessary policy adjustments or if we are to formulate plans and programs to enable the private sector to perform an effective role in the development of the agriculture and other sectors of the economy.

Distinguished delegates and participants:

It is my hope that in the next four days of your workshop, more policy and planning information can be generated from the country study reports, as well as from the discussions and inter-actions among the group. I also

hope that you will come into a successful conclusion of the workshop. To the distinguished foreign delegates and participants, I wish you all a pleasant and nice stay in Bangkok.

Ladies and gentlemen:

May I declare the Regional Workshop formally open. Thank you.

Regional Workshop on Role of Private Sector in Agriculture Development and in the Poultry Industry: Impact Analysis and Policy Issues
22-25 September, 1992
ASEAN ADPC
Bangkok, Thailand

WELCOME REMARKS

by

Mr. Nguen Srisuraksa
Director, ASEAN ADPC

Distinguished delegates and participants, ladies and gentlemen:

First of all, I wish to welcome all of you to Bangkok and to ASEAN ADPC. I do hope that your short stay with us will be a pleasant one. I also hope that you will bear with us given the limited facilities that we have at the Centre.

Ladies and gentlemen:

May I take this opportunity of expressing my sincere thanks and appreciation to: Mr. Yookti Sarikaphuti, Permanent Secretary, Ministry of Agriculture and Cooperatives, for kindly accepting ASEAN ADPC's invitation to preside over this morning's Opening Session; and to the delegates and participants for coming to attend and participate this regional workshop. May I also thank the country study report writers who kindly conducted the studies in their respective countries and subsequently prepared the study reports which we will be using as discussion papers in this regional workshop. Of course, I would also like to thank USAID for the usual financial support in conducting the studies and this regional workshop as well as the other activities of the Centre.

Distinguished delegates and participants:

Regarding the theme of our regional workshop, I would like to mention that private sector involvement and participation in agricultural development and in other specific sub-sectors is being addressed in conjunction with the refocused research and training program and activities of ASEAN ADPC starting in 1991 with the ultimate aim of strengthening further agribusiness development policy formulation and planning capability in the ASEAN member-countries thereby attracting more private sector involvement in the agricultural development process.

It may be recalled that when the ASEAN ADPC was established in the early eighties (80s), the situation then was that ASEAN member-countries still lacked the technical capability in agricultural development policy analysis and planning, such that the ASEAN ADPC's programs and activities were mainly participated by people in the government sector. However, with the structural changes taking place in the agricultural sector of ASEAN member-countries, the ASEAN ADPC had to refocus its program orientation from production-oriented issues to market-oriented concerns of agricultural development which necessitates greater private sector involvement and participation such as investing in agriculture and other agri-based activities. Thus far, we have been involving many individuals coming from the private sector in our research and planning as well as training programs and activities.

Going now to the objectives of the regional workshop, this forum in the first place is being organized to provide an avenue for presenting and discussing the results of the country studies on the role of the private sector in agriculture development and in the development of the poultry or broiler industry being undertaken in the ASEAN member-countries. This regional workshop, therefore, is expected to provide useful policy and planning information on:

a) the respective roles played by the private sector and the government sector in agriculture development and in other sub-sectors such as in the poultry or broiler industry; and

b) the effectiveness of government policies and programs in attracting private sector investment in agriculture and agribusiness.

In the end, we hope that this regional workshop will provide invaluable inputs in forging public-private sector cooperation in:

a) undertaking the necessary policy adjustments to hasten the development of agriculture in general and also the poultry or broiler industry in particular; and

b) the formulation of policies and programs to enable the agricultural economy to grow and develop competitively with the other sectors of the economy.

Distinguished delegates and participants:

Since this regional workshop will tackle two sets of country studies, there are suggestions that in conducting

the workshop, this will be done first in two parallel sessions and then to be followed by a plenary session. In this case, we expect that the delegates will be divided into two: the first group will be discussing the country studies on the role of private sector in agriculture development; while the second group will be discussing the other set of country studies on the role of the private sector in the development of the poultry or broiler industry.

As to this particular arrangement, I would rather leave this matter for the delegates and participants to decide later as we start the regional workshop after this Opening Session.

Distinguished delegates and participants, ladies and gentlemen:

As we proceed with our Program, it is my great honor to invite Mr. Yookti Sarikaphuti, Permanent Secretary, Ministry of Agriculture and Cooperatives, to kindly deliver his Opening Statement.

Please, Mr. Chairman.

Regional Workshop on Role of Private Sector
in Agriculture Development and in the Poultry Industry:
Impact Analysis and Policy Issues
22-25 September 1992
Bangkok, Thailand

PROGRAM

Day 1 (Tuesday, 22 September):

Morning Session	Opening Session Philippine country study reports (Moderator: Indonesia)
Afternoon Session	Thailand country study reports (Moderator: Malaysia)

Day 2 (Wednesday, 23 September)

Morning Session	Malaysia country study reports (Moderator: Singapore)
Afternoon Session	Indonesia country study reports (Moderator: Thailand)
	Singapore country study report (Moderator: Philippines)

Day 3 (Thursday, 24 September)

Morning Session	Conclusions and recommendations (Moderator: Private sector)
	Closing Session
Afternoon Session	F r e e

Day 4 (Friday, 25 September) Field Trip

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PART II

THE COUNTRY STUDY REPORTS

Regional Workshop on
the Role of Private Sector in Agriculture Development and in the Poultry Industry: Impact Analysis and Policy Issues

22 – 25 September 1992
ASEAN ADPC, Bangkok, Thailand

INDONESIA

THE ROLE OF PRIVATE SECTOR IN AGRICULTURAL DEVELOPMENT: IMPACT ANALYSIS AND POLICY ISSUES

By:

Memed Gunawan

Muchjidin Rachmat

A paper presented at the Regional Workshop on the Role of Private Sectors in Agriculture Development and in the Poultry Industry: Impact Analysis and Policy Issues, Bangkok, Thailand.
22-26 September, 1992

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I. INTRODUCTION

1.1. The Role of Agriculture in Economic Development

In the Indonesia's Second Longterm Economic Development (SLED) more effort will be made to improve industrial sectors, especially especially agricultural related industries. Undoubtly a strong agricultural sector is important to support the whole national economic system because Indonesias economic development will be characterized by "agricultural led economic development". Agriculture development is intended to, (a) increase production food and raw material, to support domestic industries, (b) increase foreign earning, and (c) increase farmers' income. It is clear that the role of agricultural sector in the (SLED) will always important although the relative share of the sector to the total GDP decreasing over time (Table 1). In this regard, appropriate agricultural policies are required to improve agricultural sector not only in the context of production activities but also in the relation with the development of agribusiness.

1.2. The Role of Private Sector in Economic Develepment

In broader sense, private sector is defined as the part of economic activities excluding government purchases for goods and services. Under this definition large corporations and business enterprises as well as small farmers and informal sectors are categorized as private sector. In fact, private farmers and

Table 1. Contribution of Agricultural Sector in the Gross Domestic Product (GDP)

sub sector	Year					
	1974	1977	1980	1983	1986	1989
1. Food crop and other	22.9	19.4	18.6	14.2	14.6	12.5
2. Estate crop	6.8	6.6	2.2	3.5	4.1	3.4
3. Livestock	2.5	1.9	0.7	2.3	2.6	2.2
4. Fisheries	1.9	1.8	0.6	1.6	1.9	1.5
Total Agricultural	33.9	29.7	22.1	21.6	23.2	19.6
Total PDB1 (Billion Rp)	7,629	8,882	11,170	77,676	90,014	107,321

Note : Up to 1980, constant value of 1973 was used. After 1983, constant value of 1983 was used.
Sourse : BPS (Central Bereau of Statistic)

private estates are major contributors to the agricultural output and employment. Food crops like rice, cassava, soybean and mize are produced by private farmers, accounting for over 60 percent of agricultural GDP in 1989. In estate crops, except for palm oil, the share of the government declines and the relative share of smallholder grows especially rubber, sugar, and tobacco. The share of coconut, coffee and tea declined due to marketing and financing problems.

1.3. Private Sector and Government Investment

The economic development is an effort to optimally utilize all resources includes natural resources, human resources, capital and technology in such a mechanism for the best benefit of the society. The investment activity is an activity which

transform potential resources into a real potential economic for the wealth of the nation.

As a driving force of the national development, investment activity is expected to (a) increase and diversify the national production capacity, (b) create more equitable distribution of the economic development and its results, (c) increase national income, and (d) increase and transfer tecnology and skill. To maintain the economic growth, private investment has to be accelerated.

Government investment usually limited to infrastructure development, human resource development, and creation of condusive business climate to encourage private investment. Political stability is also a non-economic factor important to increase private sectors' investment.

In line with the above objective, a series of government policies have been launched to promote investment, and to improve business climate. Several real steps have been taken, for example conducting by applying deregulation and restructurization in some sectors. This is applied not only to large private enterprises, but also to state owned enterprises (BUMN), cooperative, and small business to increase efficiency and competitiveness.

Table 2 exhibits that government expenditure increase steadily, and allocation of government budget has been shifted

from subsidy to investment in irrigation, and other investment. At the same time, private sector investment rose sharply from Rp 1,894 billion in 1981 to Rp 6,475 billion in 1988.

Table 2. Investment in Agriculture (Rp.billion, current prices)

Year	Fertil. subsidy	Investment Irrigation	Private Invest.
1977	32	283	na
1978	83	264	na
1979	125	258	na
1980	284	363	na
1981	371	351	1894
1982	420	289	1541
1983	324	273	795
1984	732	465	780
1985	477	487	1073
1986	467	239	2321
1987	736	403	5016
1988	200	482	6475
1989	155	578	na
1990	155	698	na

Source : Estimates prepared by the National Regional Development Study (LTA97), BAPPENAS in Fletcher L and K. Altermeier (1992)

The cummulative investment in the period of 1987-1992 the approved fixed agricultural investment by Investment Coordination Board is presented in Table 3. The highest cummulative investment in that period was for estate crops sub sector, followed by food crops, fisheries and livestock. Domestic investment in agriculture is only 12.9 percent which is slightly increase from about 9-10 percent in the early 80's.

Table 3. Cummulative Investment approved by BKPM in Agricultural sector, 1987/1988-February 1992.

Sub sector	Domestic			Foreign		
	number of project	investment value		number of project	investment value	
		% to agric. investment	% to total investment		% to agric. investment	% to total investment
1. Estate crops	444	66,2	8,5	42	47,2	1,4
2. Food crops	153	14,0	1,8	16	20,7	0,6
3. Fisheries	334	12,9	1,7	50	19,8	0,6
4. Livestock	77	6,9	0,9	9	12,3	0,4
Total Agriculture	1008	-	12,9	117	-	3,0
Total sector	7,556		193,791	2218		50,386

Source BKPM (1992)

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II. REVIEW OF POLICY AND PROGRAM AFFECTING PRIVATE SECTOR IN AGRICULTURE

2.1. General Policy

Oil price crash in 1982/1983 had very substantial impact on Indonesian economy. The world recession in the early 80's worsen the situation because more developed countries increased protection which resulted in great difficulties of agricultural commodity exporting countries. This has weakened the domestic economy and balance of payment. In 1982 Indonesian economic growth declined to the lowest ever (2,2 percent) and the country faced with biggest deficit.

A sequence of policies was introduced, which was a drastic change from a 'top down' strategy to the 'bottom-up' strategy by stimulating economic activities and private sectors' participation based on the comparative advantage principle. This is a kind of a blessing indiguised. A relatively quick actions were made beginning with deregulation policy in monetary sector includes banking and exchange rate. In real sector deregulations are introduced in fiscal policy, investment, industry and communication sectors.

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II. REVIEW OF POLICY AND PROGRAM AFFECTING PRIVATE SEC' R IN AGRICULTURE

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2.1.1. Monetary Policy

Reformation of monetory sector was started with devaluation of rupiah in March 30, 1983 followed by deregulation in the banking policy to allow interest rate prevail competitively in the market. This monetary policy was announced in Juni 1983 which is regarded a fundamental effort to improve banking development.

The policies is continued by issuing policy package of 27 October 1988 (Pakto), Pakjan (January 1990) Paktri (February 1990). These deregulation policies are intended to jack up non-oil export,and renovating banking and monetary sectors.

2.1.2. Policy In Real Sector

Deregulation policies of real sector includes fiscal, trade, industry, commucation and investment. In fiscal sector, government revised tax regulation in 1984 as a mean of increasing domestic income.

In The Trade sector a deregulation was launched through Inpres No. 5 (1984) and Inpres No. 4 (1985). The main purpose is to simplify administrative proces and reformation of foreign trade. The foreign trade reformation creates better flow of goods betwen islands, export and import . Pakem 6 Mey 1986 was issued to increase efficiency and competitiveness through better trading transactions for exporter.

Package October 1986 revised the non tariff protection such as quota, and import licencing of some goods and increase incentive to foreign investment through regulation asset's share, and credit facility.

Other policies that have been implemented were package of January 15, 1987, about import tariff relaxation, and at the end of the same year government announced Package 24 of December 1987 to simplify export administration.

Structural policy adjusment in industry was undertaken to increase the efficiency and productivity by removal of non tariff protection and the development of export oriented industries. In 1986-1987, government issued three policy packages to support industral sector, namely Package of October 25, 1986, Package of January 29, 1987 and Keppres No. 16, 1987.

Deregulation in communication sector was implemented through policy package of November 21, 1988 to increase national shipping industry and simplify business permit.

2.1.3. Policy in Investment Sector

Indonesian goverment policy in investment is mainly to ecourage private domestic investment (PMDN) and foreign investment (PMA). The policy includes simplification of procedure in obtaining permit, in establishing new business and implementation

of business activity, and tax relaxation or exemption. There are several policies in investment sector :

(1) Inpress No. 5 in 1984 to simplify the procedure of capital investment qualification

(2) Package of May, 6, 1986 to allow PMDN pending the added value tax (PPN) payment and returning the import tariff of some goods

(3) Package of October 25, 1986 to enhance the national capital and increase the role of foreign's capital in exportation activity.

(4) Package of December 24, 1987 creates business climate which promote capital investment activity through simplification of permit, regulation and taxing facility.

(5) Package of November 21, 1988 creates better marketing system of PMA product up to local distributor

(6) Keppres No. 21, 1989 to ease the flow of investment into business world. This was implemented by increasing informaion such as negative list of investment.

2.2. Policy in Agricultural Sector

Agricultural development in Indonesia are implemented throug four programs i.e. diversification, extensification, intensification and rehabilitation. Recently the approach agricultural development is agribusiness. Focus of development is no more

based on commodity wise, but a functional approach. Under this approach agribusiness system is developed though an integrated program in four subsystem, namely input market and input distribution, agricultural production, processing or agroindustry, and marketing and distribution.

Almost entire operation of the agribusiness system are conducted by private sector. Government role will be limited to providing information on technology, market analysis and market intelligence, government program and regulation, and providing condusive business climate.

Future investment activity in agriculture sector is directed to spread across all islands especially Sumatra, Kalimantan, Sulawesi, Nusa Tenggara and Irian Jaya. It is also government policy to assist, small scale agribusiness increasingly involve in, and enjoy the benefit from agribusiness. Large scale agribusiness are expected to assist, technically and financially, the small scale domestic agriculture businesses in a strict business arrangement. This policy is implemented by allowing capital investment in selected sector/commodity through Nucleus Estate Smallholder (NES) scheme.

Importance of developing the agribusiness in the agricultural development is based on the interest of (Baharsyah, 1991) :

(a) Obligation to search for new source of economic growth which is able to utilize the interaction of growth between sector.

Agribusiness is considered as a pheripheral bording between those sectors. A well functioned agribusiness activities integrate the economic activities in agricultural and other sector.

(b) National pressure on providing new job to anticipate the always growing labor force. Agribusiness is a 'multifacet' activities. Because of its nature, it will widen the economic activities including in rural areas.

(c) Nationally, it is necessary to create strong foundation for expanding non oil and gas export base on its comparative superiority.

(d) Increasing the added value of agricultural products to increase farmer's income. The role of farmer in supply share of raw material is quite big.

(e) Agribusiness activities are highly dependent on the agricultural resources which are renewable.
Cooperative, state own business (BUMN) and other private business are all suitable to get involved in agribusiness. The change for investment in agribusiness is widely open.

2.3. Review of Government Programs

Apart from a comprehensive and integrated program, the realization of the program faces several important contraints. The obstacles can be categorized into regulatory constraints, infrastucture constraints, agribusiness and operation con-

straints, scale of business constraints, technology, human resource and professional constraints, and institutional constraints.

Regulatory constraints. The most important contraints are restrictive tariff barrier. Although some major steps have been taken, further effort has to be conducted to eliminate barriers and to streamline procedures in licensing and permit. Land tenure regulation has also been relaxed, but some agribusiness which requires longer gestation period need longer land contract for the project to be profitable. Tax treatment is also consider need to be adjusted. Progressive income needs to be readjusted , and applied to business and individuals. Other regulatory constraint such as the difficulty of obtaining long-term credit on suitable term has been limiting agribusiness development.

Infrastucture constraints. This includes a limitation of utilities (water, electricity) services; inadequate marketing and distribution channels, high cost of land, sea and air transport; limited information and supporting services; and the lack of promotion facilities.

Agribusiness operation and management constraints. This constraints partly due to inappropriate technology and knowledge of producers. Quality control and standardization need to be improved to reduce marketing uncertainty and to increase the competitiveness. Other aspect is related to environmental issue,

added value and farm income. By knowing the gap that currently exist, better action can be made to avoid bigger conflict in the future.

Problem in scale of business. Agribusiness activity needs spesific economic scale. It need continues supply of raw material with spesific quality and other treatments. Small scale agricultural business is considered inefficient. Several efforts have been maden to reduce the obstacle such as by making new arrangment through PIR, regional collective collaboration in insus program and foster parent (Bapak Angkat) program.

Problem in Technology. Support of advanced technology in production and industry are needed in agribusiness/agroindustry. The lack of adequate technology for several down stream industries inhibits the development of agribusiness/agroindustry. It is important to face the increase in ability of research and development especially in biotechnology.

Professionals and human resorce development. The development of agribusiness in Indonesia are faced with the lack of skilled labor and professional manager. The growth of state or private managerial research institutes are expected to provide the professionals needed.

Institutional constraints. This constraints related to the organization of the agrbusiness and supporting institution,

cooperative, and institutional arrangement which is able to combine the interest of small and large scale agribusiness.

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III. PRIVATE SECTOR IN AGRIBUSINESS DEVELOPMENT: ROLE AND IMPACT ANALYSIS

3.1. Impacts of deregulation on the Private Sector Development

It is difficult to single out the impacts of deregulation policy on agribusiness performance. Changes in investment, production, and export can be used as indicators of the impacts.

The share of private fixed investment grew steadily in the 1980's especially after the oil market crash which led to major macroeconomic reform and increasing the open market policy of the economy. During the oil boom (1975-1983), the share of private fixed investment rose to 52.1 percent of total fixed investment. It later rose to 55.5 percent during 1983-1988. In the first year of Repelita V, the share of private fixed investment increased to 57,7 percent, and in the closing year Repelita V (1988) rose to 61.4 percent, and continue rose to 63.0 in 1990. In contant price the private fixed investment during Pelita V was almost double compared to the one during the 1975-1982 period.

Impacts of deregulation policies can be seen more clearly in the increase of foreign and domestic fixed investment. It increased from annual average of $1,928 million before 1989 to $4,719 in 1989, and $8,750 in 1990. In 1989 the annual average domestic fixed investment was around 2.5 times of domestic fixed

investment in 1983-1988. In 1990 more than 3 times of the level of 1989.

This high investment growth however, has been biased toward manufacturing sector. Out of the total foreign investment of $11,566 million between 1983-1988, manufacturing sector accounted for $9,521 million or 82.3 percent. Manufacturing share in domestic fixed investment was 56.4 percent. The high concentration of private investment in manufacturing sector indicates that deregulation has not been attractive enough for agribusiness investment. Many factors hamper the agribusiness investment, among others are deregulation which generally in favor of manufacturing sectors, the nature of agribusiness which usually involve higher level of risks, and small farm size which limits farmer and agribusiness entrepreneur to operate efficiently and limited access to financial assistance.

According to some studies, manufacturing industries enjoyed in general an average effective protection rate of 68 percent and 59 in 1987 and 1990 respectively against 16 and 15 percent respectively by agriculture. This also due to the market of those commodities, where agricultural product which usually export commodities, has to compete in the international market, while manufacturing commodities are mainly for domestic consumption.

According to the Investment Coordination Board, the share of agricultural sector in the approved domestic private investment decline from 25.2 percent (1983-1988 average) to 18.7 percent in

1989, and to 11.7 percent in 1990. In the case of foreign investment the share of agricultural sector decllined sharply from 3.5 percent (1983-1988 average) to 1.9 percent in 1990, after a sligh increase in 1989 (3.7 percent).

The realization of the investement was also very low. In 1988 the actual domestic investment was only 25 percent of approved investment, assuming a time lag of one year. In 1989 the performance improved to 37 percent, but slump again to 8 percent in 1990.

Clearly that massive deregulations currently being conducted by government have improved in the aggregate economic performance, however more effort has to be devoted to agriculture and agribusiness sector. It has also to be recalled that substantial share of small holder role in the nation's economy has to be considered in the investment policy. A mutual benefit may be achieved through an institutional arrangement between small and large business.

3.2. The Role of Investment in Increasing Added Value

As has been explained at the earlier section, in line with the direction of longterm development policy toward industrial sector, it is expected that the role of agricultural sector will gradually be decreasing. The decreasing role of agricultural

sector and increasing role of industrial sector indicates the growth in agricultural sector can promote the growth in industrial sector more rapidly.

One of the criteria in evaluating the impact of investment in the development is Incremental Capital Output Ratio (ICOR). which is defined as increase in capital divided by in increase in added value.

Table 4 shows the change in GDP, amount of new investment and the ICOR during the periode of 1984-1989. Nevertheles, the figures should be interpreted carefully. Firstly, investment shown in Table 4 is the investment recorded by the BKPM, not including investment made by the farmer/investor which is not recorded by BKPM. Secondly, comparison between sub sector may be misleading because each commodity has different gestation period.

The range of gestation period are about 3-5 years for estate crops, less than one year for food crops, 3 moth-4 year for livestock and fisheries.

Because of the lack of complete data in investment value of ICOR presented in Table 4 must be interpreted very carefully. With the above weaknesses the value of ICOR presented here has not expressed the full productivity of each sub sector.

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'able 4. Change in GDP, investmen and the ICOR, 1984-1989

ector	Change in PDB 1984 - 1989 (1)	new investment 1984 - 1989 PMDN	PMA	Total	ICOR
ood Crop	2,907.2	1,082.5 (86.5)	168.3 (13.5)	1,250.8 (100.0)	0.43
state Crops	855.5	8,555.7 (93.8)	562.9 (6.2)	9,118.6 (100.0)	10.56
ivestock	684.2	440.5 (80.3)	108.4 (19.7)	548.9 (100.0)	0.80
isheries	617.3	437.5 (44.3)	550.6 (55.7)	988.1 (100.0)	1.60

) Values were adjusted to the constant value of 1984

Souree
1) BPS
2) BKPN
3) Dirjen Perikanan/ Directorat General of Fisheries

However these ICOR can express the degree of saturation investment for each sub sector.

Total value of investment of Rp 1250,8 billion for the periode 1984-1989 the food crops sub sector was the second highest investement after the estate crops sub sector. With the ICOR point of 0.43. This shows that the investment is highly profitable which resulted a great possibility to increase investment in food crop sub sector.

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The amount of investment in estate crop sub sector for the periode 1984-1989 reached Rp 9118,6 billion . The amount was the biggest among the other sub sector in agriculture. The ICOR value based on the first 5 year period was very large, showing the increase in investment in the last five-year period was 10.66 time faster than the added GDP from this sub sector. This does not necessarily imply a low performance of estate crop sub sector, because 5 year period is too early for an evaluation on estate crop. The performance may change in the next five year period.

The fund invested in livestock sub sector during the period of 1984-1989 was the lowest compared to the other sub sector, i.e Rp 548,9 billion. However the ICOR value of 0.8 was considered a good performance. This value means that the increase investment value was balanced by the increase in added value. The ICOR of 0.8 is about ideal value considering that there is still possibility to gain higher profit by increasing investment.

The amount of fund invested in fisheries subsector during the same periode reached Rp 988.1 billion. This additional amount of investment has yielded additional GDP from fishery of Rp 617.3 billion or the ICOR value of 1.60. Considering longer time is needed to have a yield from an investment this ICOR is considered a fair investment in the fishery sub sector.

3.2. Role Of Investment In Employment Opportunity

Table 5 shows that labor force working in agricultural sector is still high but with declining trend. Notice that the declining rate of labor share to total labor in economy is far slower than the declining rate of its share to the GDP. This in general shows an increasing lag in productivity and wealth between agricultural and non agricultural sector.

Table 5. Absorbtion of Labor Per Sector

percent

Sector	Year				
	1971	1976	1980	1985	1990
Agriculture	66.6	61.8	55.5	55.5	54.8
Industry	6.8	8.4	9.0	9.0	14.5
Trading	10.8	14.4	12.9	12.9	14.6
Service	10.3	10.9	15.5	15.5	12.8
Other	5.4	4.5	7.6	7.6	3.3
Total Labor (000 People)	37,923	47,306	51,192	62,547	75,888

In REPELITA V, Agricultural sector is still expected to absorp a large amount of labor force. However the impacts of investment on labor absorption highly depend on the nature of the investment whether its is labor or capital intensive type of investment.

Table 6 shows the amount of investment, number of labor ar labor/investment ratio during periode of 1968-1990 for PMDN ar PMA. It can be seen that PMDN in estate sub sector absorb larg est investment and also have the highest ability to absorb labor i.e. with the ratio of 0.077. The lowest labor absorption i livestock sub sector, with the ratio of 0.015, probably due t increasing number of large scale and capital intensive livestoc industry in Indonesia.

Tabel 6. Investment and investment/labor ratio for PMDN and PMA, 1968-1990

Sub sector	PMDN			PMA		
	Amount of invest ment (Rp mil)	Number of Labor (Man/Mil)	Ratio of Labor/ Invest (Rp000)	amount as in vest- ment	Number Labor man	Ratic Labor vestm (man/$
1. Food crops	2,519,059.5	156,517	0.062	177,043.4	8,443	0.048
2. Estate	12,727,167.9	981,346	0.077	836,573.3	39,663	0.047
3. Livestock	596,156.4	8,907	0.015	128,310.6	8,457	0.066
4. Fisheries	1,097,253.0	82,993	0.076	707,130.0	9,567	0.014
Total	16,939,636.8	1,229,703	0.073	1,849,056.3	66,130	0.036

Source
1) BKPM (Analysed data)
2) Dirjen perikanan (Directorate General of Fisheries

Surprisingly the PMA in livestock sub sector has a highes labor/investment ratio. This is actually because this relativel small investment was design to develop small farmers which usual

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ly labor intensive type of investment. Relatively PMA's investment in fisheries sub sector is the lowest in labor absorption with the ratio of 0.014.

From the above data, it can be seen that capital investment through PMDN in estate crop subsector is potential to absorb labor force and in turn generate more equatable income distribution.

3.3. Regional Agricultural Investment Allocation

Table 7 shows investment of agricultural sector by island for the period of 1968-1990. The biggest PMDN in agricultural sector is located in Sumatera (Rp 10,300 billion). Estate crop sub sector in Sumatera absorbed largest investment (Rp 8,969 billion) followed by Kalimantan with the investment of Rp 1,715 billion.

Table 8 exhibits the amount of PMA'S investment in Agricultural sector by island during 1968-1990. Largest PMA was in Sumatera, i.e $ 865,9 million. In this island the highest investment was in estate crop sub sector. The lowes PMA was in Maluku amounted of $ 179 million which was entirely allocated in fisheries sub sector. The second largest PMA is in Irian Jaya, i.e. $ 254,6 million. The largest investment in this island was in fisheres sub sector. The third rank in foreign investment is in Java, totaling of $ 239.0 million, with the highest investment in

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livestock sub sector ($ 117.1 million), followed by food crops subsector ($ 77,8 thousand).

Tabel 7. PMDN by Island (1968-1990)

Island	Food	Estate	Fisheries	Livestock	Tot
1. Java	422.8 (16.8)	655.9 (5.1)	1,153.0 (42.0)	131.9 (22.1)	2,36
2. Sumatera	646.6 (25.7)	8,969.1 (70.5)	487.9 (17.8)	187.8 (31.5)	10,2
3. Kalimantan	539.4 (21.4)	1,715.5 (13.5)	92.7 (3.4)	167.5 (28.1)	2,5
4. Sulawesi	396.9 (15.8)	861.1 (6.8)	607.0 (22.1)	86.7 (14.5)	1,9
5. Nusa Tenggara	39.4 (1.6)	24.2 (0.2)	133.9 (4.9)	9.6 (1.6)	207.
6. Maluku	387.3 (15.4)	188.1 (1.5)	152.3 (5.5)	-	727
7. Irian Jaya	86.7 (3.3)	313.9 (2.4)	118.9 (4.2)	12.9 (2.2)	532
Total	2,519.1	12,727.7	2,745.7	596.2	18,588

( ) = Percent

Tabel 8. PMA by island (1968 - 1990)

Million US$

Island	Food crops	Estate crops	Fisheries	Livestock	Total
1. Java	77.8 (44.0)	30.2 (3.6)	13.9 (3.4)	17.1 (91.3)	239.0
2. Sumatera	99.2 (56.0)	709.9 (84.9)	53.5 (13.1)	3.4 (2.7)	865.9
3. Kalimantan	-	-	57.1 (12.5)	-	57.1
4. Sulawesi	-	34.3 (4.1)	43.8 (10.7)	0.4 (0.3)	78.5
5. Nusa Tenggara	-	-	37.6 (9.2)	5.2 (4.1)	42 8
6. Maluku	-	-	17.9 (4.4)	-	17.9
7. Irian Jaya	-	62.2 (7.4)	190.2 (46.7)	2.2 (1.6)	254.6
Total	177.0	836.6	407.9	128.3	1,549.8

( ) : Presentage of total

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The following distribution index

$$I_{ij} = \frac{K_{ij} / K_{ij}}{K_{ij} / K_{ij}}$$

where I_{ij} : Index of subsector i in region j

K_{ij} : investment in subsector i in region j

measure the investment priority given to commodity and region

The value of $I_{ij} > 1$, means that the allocation of fund for subsector i in this region j is relatively large compare to the fund available. In other word, I_{ij} value express priority of development of sector i in a particular region j.

Table 9 Shows the value of distribution index I of PMDN'S Investment in agricultural sector (data were calculated from Table 7). According to the figures, in Java the highest priority was fisheries, followed by livestock and food crops. In Sumatera, each sub sectors have relatively same priority. In Kalimantan the priority are livestock and food crops, in Sulawesi fisheries, Nusa Tenggara fisheries folowed by livestrok and food crops, Maluku food crop and fisheries, and Irian Jaya fisheries and food crops.

Table 9. Distribution Index of PMDN by Island

Island	Food crops	Estate crops	Fisheries	Livestock
1. Java	1.32	0.41	3.30	1.74
2. Sumatera	0.46	1.27	0.32	0.57
3. Kalimantan	1.58	1.00	0.25	2.08
4. Sulawesi	1.50	0.64	2.11	1.39
5. Nusa Tenggara	1.40	0.17	4.38	1.45
6. Maluku	3.92	0.38	1.42	-
7. Irian Jaya	1.20	0.86	1.51	0.74

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IV. ISSUES, PROBLEMS AND COMMENTS

Agribusiness investment in general faces with several constraints, especially due to the lowest degree of comparative superiority; first, the investment in agricultural needs large initial fixed capital; second, long gestation period between investment and production; third, high risk of failure caused by natural factors such as season, land, water and pest and deseases; fourth, often located in newly established and in remote area with relatively limited infrastructure. These conditions are important constraints which limit the interest of entrepreneur to invest in agricultural sector.

Other problems contribute to the unattractiveness of agribusiness investment among others are

1. Problem in investment fund especialy due to current high interest rate and tight money policy (TMP). It is difficult to find investment on a project which generate a profit margin higher than the interest rate.

2. Instability of the world market resulted in high uncertainty and risk to the investor. In addition, increasing competition between exporting countries, market barriers and protectionism implemented by importing countries, have made

agribusiness investment become the lowest alternative for the investor.

4. Interest in investment in outer Java is low because of limited availability of infrastructure, especially electricity, and skilled labour.

5. The PMA investment, beside the above limiting factors in Indonesia, foreign investment is also faced with
   (1) Limited investment fund caused by the flow of fund between developed countries
   (2) More investment alternatives in other developing countries

6. Problems of bureaucracy especially in dealling with the proses of obtaining the right/licence.

7. Problems related to regulation, law, culture which sometimes are not suitable with the business operations.

8. In the future, the constraints are expected to be larger, especially because investment fund become more scarce. With the increasing globalization, Indonesian economy will be highly affected by the world economy.

Besides the above problem there are some advantages to consider to promote agribusiness investment in Indonesia, there are :

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1. More stable political and economic situation in Indonesia are in suitable condition for the investment

2. Increasing government attention regarding the importance of investment has been realized in through policy reform and deregulation and improve physical infrastructure to provide the best business climate in Indonesia.

3. The advantage of Indonesia in term of natural resources potential not only in the magnitude, but also in variety and quality.

4. Large population in Indonesia reflects a potential demand for agricultural and agoindustrial products. A high growth of per capita income and high income elasticity of demand indicates a good market potentials.

Several extra steps are needed for further stimulating the investment climate in agricultural sector such as :

1. Improve the information system to disseminate effectively the information regarding regulations/laws and procedures, commodity map, development priority, and market potentials

2. An integrated planning between related institution in providing information, and market studies and promotion.

The Role of Private Sector in the
Development of Poultry (Broiler) Industry:

IMPACT ANALYSIS AND POLICY ISSUES

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Paper presented at a Regional Workshop on Role of Private Sectors in Agriculture Development and in the Poultry Industry: Impact Analysis and Policy Issues, in Bangkok, Thailand, 22-26 September, 1992

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I. INTRODUCTION

1.1. Background Information

Broiler is one of the eleven livestock commodities which is given special attention in Indonesia. Its share to the livestock Gross Domestic Product (GDP) is shown in Table.

Table 1. Contribution of Livestock Commodities to Livestock GNP, 1990 (percent).

No.	Item	Population (000 head)	% AU	GNP (000 Rp.)	Percent
1.	Cattle:				
	a. Beef Cattle	9,802,521	51.9	477,367	20.8
	b. Buffalo	3,296,706	17.5	96,749	4.2
	c. Goat	16,000,000	8.5	152,449	6.6
	d. Pig	6,464,000	3.4	313,454	13.7
	e. Horse	663,502	3.5	2,195	0.1
	f. Broiler	25,394,500	1.3	486,192	21.2
	g. Duck	25,197,200	1.3	20,556	0.9
2.	Egg				
	a. Native Chicken	173,999,100	9.2	35,242	1.5
	b. Layer	33,604,300	1.9	193,887	8.5
	c. Duck			57,567	2.5
3.	Milk	232,551	1.2	37,002	1.6
4.	Product Processed:				
	a. Meat	---	---	336,229	14.7
	b. Tripe	---	---	72,266	3.2
5.	By-product	---	---	11,945	5,0
	Total	18,853,631	100	2,293,100	100

Source: Directorate General of Livestock, 1991.

Table 1 indicates that in 1990 there were 25.3 million birds (broiler) in Indonesia. Measured in terms of animal unit (AU), the total number of broiler was equivalent to 1.3 percent of the total AU. The same table also shows that there are 4 main livestock commodities namely broiler, beef cattle, pig and layer which contribute a worth amount of GNP to livestock GNP. Broiler business contributed the largest livestock GNP, i.e. about Rp. 486 million or 21.2 percent of the total livestock GNP. This indicates that broiler business have an important economic role in livestock development.

Table 2 shows that broiler business provides the second largest employment opportunity after beef cattle business. It provided jobs for 153 000 people or approximately 9.9 percent of total number of labor employed by the livestock sub-sector. This situation has been in line with the government policy which stated that the objective of broiler industry development is among others to provide employment opportunity. Indonesia as a developing country faces many problems, one of them opening up employment opportunities for the increasing number of labor force. The number of labor force absorbed by broiler industry represents one of the successful indicators of economic development. It can be seen on Table 2 that there are three livestock commodities namely broiler, beef cattle and native chicken business which absorb the largest amount of labor force in livestock subsector.

The growth of Gross National Product and the distribution of income is the main topic of this paper, therefore it is interesting to see that the government of Indonesia, beside speeds up the growth of broiler industry also pays attention to income distribution. The question is how far the role of private can speed up the economic growth and distribute income as mentioned earlier?

Table 2. Number of Labor Absorption by livestock Commodities, 1990

No.	Species	Labor	Percent
1.	Beef Cattle	275,900	17.8
2.	Dairy Cattle	70,400	4.5
3.	Buffalo	110,800	7.1
4.	Goat	81,600	5.3
5.	Sheep	46,500	3.0
6.	Pig	65,000	4.2
7.	Horse	13,500	0.9
8.	Native Chicken	118,200	7.6
9.	Layer	86,100	5.6
10.	Broiler	153,300	9.9
11.	Duck	69,400	4.5
12.	Others	460,200	29.7
	Total	1,550,900	100

Source: Directorate General of Livestock, 1991.

1.2. Structure of Poultry (Broiler) Industry in Indonesia.

The main commodities in ~~broiler~~ poultry industry in Indonesia include broiler, layer, native chicken and duck. These four commodities provide meat and egg especially for domestic consumption. The poultry industry has been grew rapidly since the last ten years, due to increasing income and the awareness of society to consume a nutrious food. The role of poultry in total meat consumption increased significantly from 19.9 percent in 1978 to 53 percent in 19991. This is because poultry industry could provide chicken meat faster than beef cattle industry does. Increasing beef production usually is accompanied by relatively high growth of cattle slaughter which resulted in decrease the beef cattle population. This situation can be overcome by providing enough supply of meat broiler.

Native chicken counts for the largest population in broiler industry and usually raise traditionally by almost household in rural areas. Rearing of native chicken in rural areas is one of important income sources for farmers. In the last five years, native chicken has been managed in firm by using more intensive production technology. The government of Indonesia encourages this business through distribution of final stocks, provide extension and credit services to the farmers. It is expected that in the near future native chicken business will be the second largest of broiler industry in Indonesia.

Broiler industry has been managed commercially since 1970 and it grows rapidly recently. The population increased from 25 million in 1989 to 253 million in 1990. The role of private sector was very important in those process especially from 1970 to 1980. The investments from private sector especially were used for breeding farm activities and feed manufacture. After 1990, the government controlled the utilization of investment in livestock sub-sector in view of equity issue. Since then the broiler industry structure in Indonesia has been changed.

In general, poultry industry is able to encourage agricultural production such as corn, polar, soybean and fish which are used for feed manufacturing. The main problem is the demand of those commodities are relatively faster than the supply. Therefore to meet the need of feed industry, Indonesia has to import corn, soybean-meal and fish meal.

1.3. Review on Development and problems of broiler industry in Indonesia.

Indonesia consists of 27 provinces, some of them serve as center of broiler productions. Table 3 shows the distribution of poultry (broiler) firms by province in Indonesia in percent.

Table 3. Distribution of broiler firms in Indonesia, 1990 (percent)

Province	Percentage of total broiler firm		
	Hatcheries	Layer	Broiler
West Java	55.5	27.6	47.0
North Sumatera	11.1	18.2	14.9
East Java	11.1	17.5	4.8
Central Java	4.4	8.1	0.1
Yogyakarta	0.0	5.5	3.6
West Kalimantan	0.0	4.0	1.8
Other 21 provinces	17.9	19.1	27.8
Indonesia	100	100	100

Source: Agricultural Census,
Central Bureau of Statistics, Jakarta.

The table shows that center of broiler productions are located near the consumption centers especially in West Java and East Java. West Java and East Java are areas where the two largest cities (Jakarta and Surabaya) in Indonesia. In these centers, broiler business are supported by enough provision of breeding farm and feed industry.

Table 4 shows the development of broiler firms and broiler production per week for the last ten years.

Table 4. Number of Smallholder and Private Firm of Broiler Industry in Indonesia, 1990.

Year	Private			Smallholder		
	Number of firm	Number of Chicken	Production/ week	Number of firm	Number of chicken	Production week
1984	115	320,195	2784	716	768,628	1073
1985	115	265,600	2300	751	765,087	1019
1986	128	392,450	3066	n.a.	n.a.	n.a
1987	136	502,583	3695	581	862,810	1485
1988-1992	*	*	*	*	*	8

Sources: District Livestock Services, Bogor.
Yearly Report, 1984, 1985, 1986 and 1987.

Note: n.a. = data not available
* = All firms are in corporate form.

Table 4 revealed that the amount of private firms per year has increased steadily while those of smallholders declined. The amount of smallholder declined by approximately 9.4 percent per year which is not expected in the Indonesian economic system, though it is a natural situation in economic development. As has been mentioned that one of the objective of the development of broiler industry is to provide employment opportunity.

For the period 1980 up to now, the government has made intensive intervention to control broiler market. One of the government regulation stated that large firms which produce larger than 15 000 head per flock should get permission and meet certain

qualifications. The objective of the regulation among other is to protect small farmers. In 1988 the government started to encourage cooperative to develop smallholder, while large firms were directed to operate hatcheries, feed manufacturing operation and poultry processing business. Recently after some deregulations in broiler business, broiler population increase 18 times as compared to that in 1980, amounting to 400 million birds. The development of broiler business, which is relatively high, is a good case to be learned, especially how private sectors are able to achieve it.

1.3. Organization of paper.

The paper starts at Chapter I which consist of summary explanation on socio-economic condition in Indonesia, government policies and how the government formulates the implementation of national broiler industry. Position of private sectors is also presented in this chapter. In Chapter II the role of private sector and its implementation will be discussed. Chapter III discusses some issues and problems faced, especially in encouraging the role of private sectors. The final chapter or chapter IV consist of conclusion and implications.

II. POLICY AND PROGRAM REVIEW AND THE ROLE OF PRIVATE SECTOR

2.1. Policy

2.1.1. General Policy

Indonesia is a developing country with relatively high population high approximately 186 million people in 1990. After several years were in politically unstable, Indonesia started to conduct development plan in 1966 toward industrial country. The main problems faced by Indonesia were shortage of food and unemployment. In the last 25 years, Indonesia conducted national development actively and try to change traditional agriculture into advanced agriculture. Agricultural programs were given special attention because 80 percent of indonesian population living from agricultural activity.

This objective of Indonesian economic development are summarized in three aspects, they are income distribution, high growth of national economy and stabilization. Therefore issues of poverty alleviation, employment opportunity and rural development become priority.

To achieve the objective especially income distribution, careful government intervention in market structure has to be

launched. In this case, the government has declared that agricultural sector has to provide employment and largest advantage for society. Therefore, Indonesian government has made some policies in agricultural commodities development.

2.1.2. Government Policies on Broiler Industry.

Government policies to develop broiler industry is in line with the general policy in agriculture sector. Indonesia has stated that the objectives of livestock business in general are to provide employment and income sources for the society. From 1980, government has barn broiler firms which produced more than 750 head per week. Ten years later, this policy was considered no more appropriate because broiler industry is more efficient if managed in a large scale.

In 1990, a new policy was introduced to give opportunity to the private sector involved in broiler industry with certain conditions. The new policy consist of two major issues as the following :

1) Broiler firms which produce less than 15 000 birds per flock are not required to get legal permission from the central government but have to report to head of district livestock services.

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2) If the broiler firms produce more than 15 000 birds per flock, the firms should get legal permission from the Minister of Agriculture.

To get permission from the Minister of Agriculture and other government services, the firms are recommended to sell 60 percents of their product for exports and should be in Nucleus Plasm Scheme by involving small farmers as plasm in the business. In other word 40 percent of investment in the firm should be come from small farmers as plasm.

Broiler industry in Indonesia is heavily influenced by government policy. The industrial structure which will be built and still under way, appears in Figure 1. The relation in the structure can be explained as follows :

1. There are 2 forms of broiler business :
   a. Small Scale broiler business which produce less than 15 000 head per flock.
   b. Private Firm which should be in the form of Nucleus Plasm Scheme. In this form each firm should support some small farmers as plasm. This cooperation is categorized as corporate.

2. Government gives wide opportunities to private sector to operate hatcheries, feed manufacturing operations and

marketing of the product. This activities could to be conducted by small firms due to the complexities of technology and huge investment needed to run it.

Through this policy it is expected that the price of seed and feed will be more competitive. This also helps corporate firm providing employment and income sources.

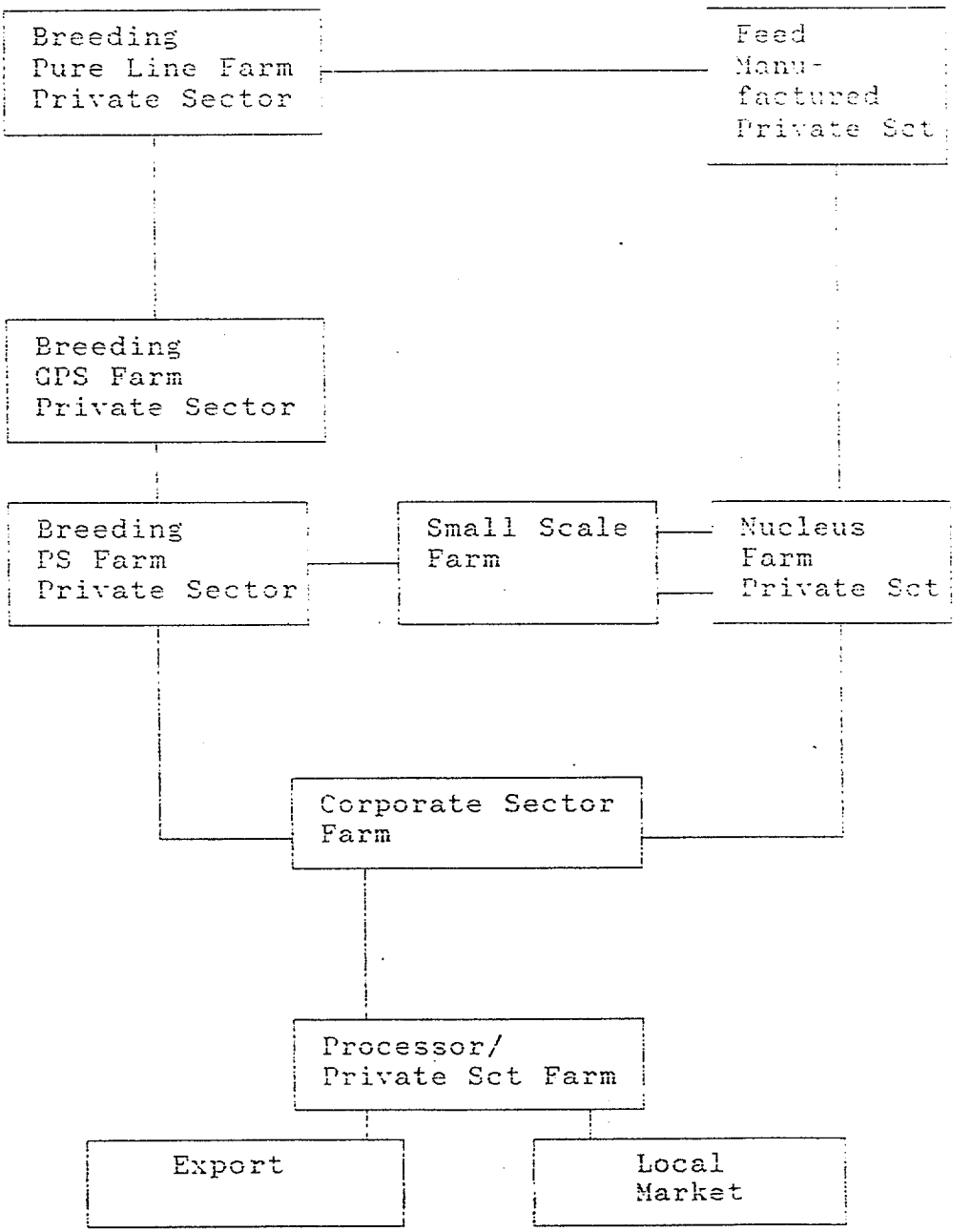

Figure 1. Structure of Poultry Industry in Indonesia

2.2. Review on Government Policies.

2.2.1. Livestock Industrial Area ("KINAK") Development Pattern

Government policy is mainly directed to develop small scale firms under Nucleus Plasm Scheme or Corporate Firm. The government assistance through Presidential Fund or "BANPRES" allows the government provide loan to small farmers which should be repaid by selling broiler finisher. The fund is managed by private firms which are appointed by government. The firms have to be Nucleus Firm and support small farmers as plasm in certain zones of livestock industry which is called "KINAK" or Livestock Industrial Area.

Because the small farmers always have investment problems, the government anticipates that broiler industry will not grow faster through small scale. For that reason, in the first step the government provide credit for small farmers trough Nucleus firm (hatcheries or broiler firm). By using government fund, the Nucleus firm are able to support small farmers as plasm through KINAK. In the second step, it is expected that The Government Banks or Private Banks will provide funds for small farmers.

In this livestock industrial areas small farmers are grouped in certain zones, but each farmer manage his own farm. In terms of

economic, "KINAK" is managed as a big scale but the ownership is belong to a large number of farmers. In this scheme, small farmers receive final stock and feed from private firm as nucleus. While the government bank or private banks provide credit for breeding farm. The farmers install/repay the loan through selling their broiler.

In those areas small farmers only involve in rearing livestock and handle production. Livestock productions are sold to Nucleus Farm which then sell them to the market. This structure can be seen in Figure 2.

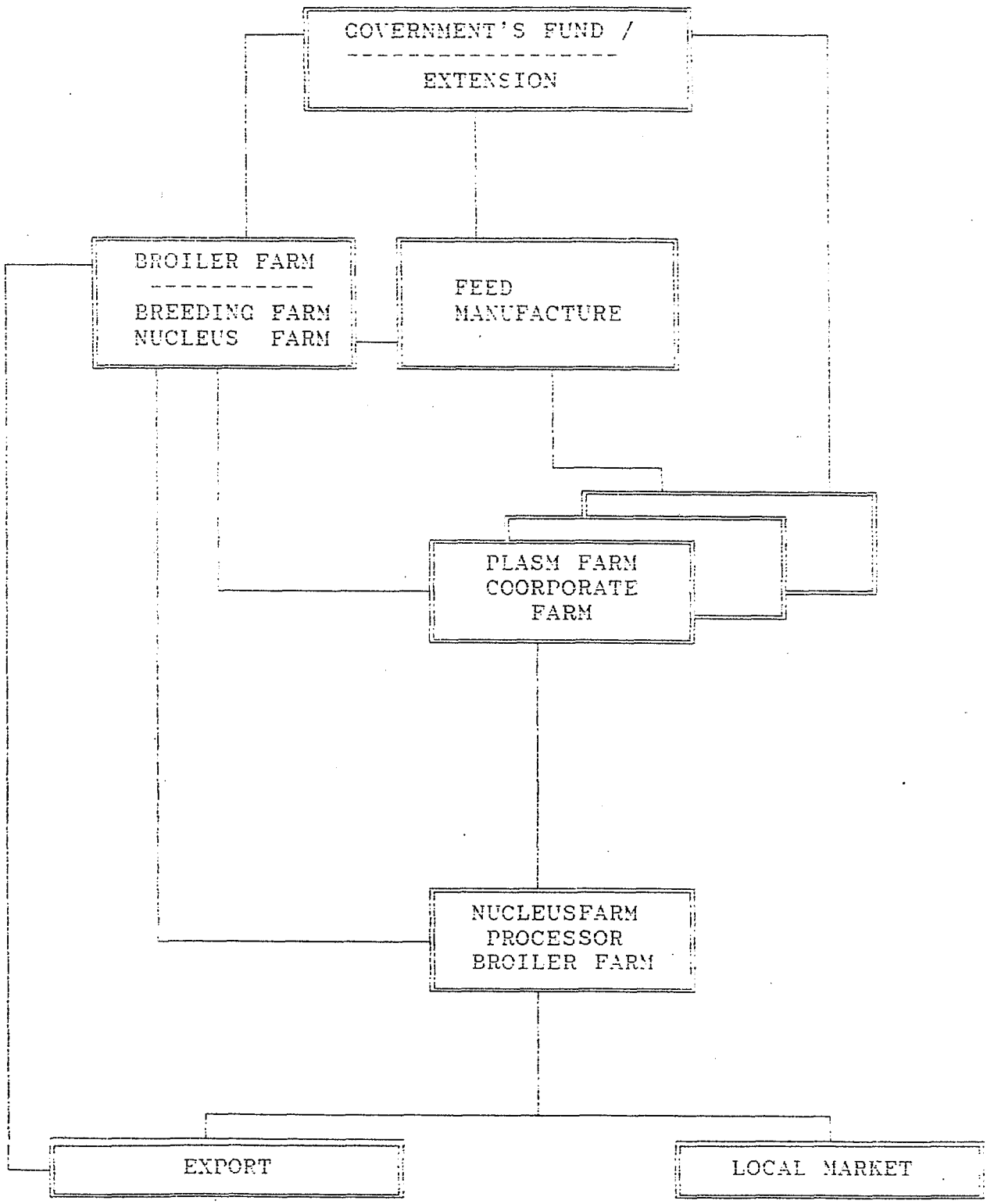

Figure 2. Diagram of Livestock Industrial Area

Table 5 shows five location of "KINAK" have been established involving of 391 small farmers and produce 586 500 head per week. It is expected that within 2 years all of the farmers are able to repay their loan, so the fund can be distributed to another new "KINAK".

Table 5. Development of Livestock Industrial Area, 1991

Phase	Production (head/week)	Area (ha)	Farmers (people)
I	226 500	na	151
II	150 000	33	100
III	60 000	10	40
IV	150 000	na	100
Total	586 000	-	391

2.2.2. Foreign Investment

The government policy on poultry industry is directed toward the development of local, smallscale industry. In view of this, foreign investment lisence in poultry is selectively given, especially those which produce for export market. However, as Indonesian products less competitive, there are only few foreign investment on the poultry business, and they are mainly on breeding

and feed production. High cost of feed has been contributing to the low competitiveness of Indonesian poultry products.

Table 6. Foreign and Domestic Investment Indonesia, 1985-1988

Type of Investment	1985	1986	1987	1988
Foreign Investment	45 856	45 856	114 878	119 178
Domestic Investment	130 275	169 254	381 987	402 221
Non Government Facility	28 434	35 314	100 550	116 581
Total	204 547	250 429	597 415	637 980
Beef Cattle	22 337	29 023	32 804	36 357
Dairy	17 028	18 616	168 523	169 871
Swine	30 079	61 504	183 098	198 911
Poultry	89 462	103 735	111 580	176 116
% Poultry	43.7	41.40	18.7	27.6
Others	45 641	34 551	22 430	56 705

As presented in Table 6, domestic and foreign investment on livestock industry has been growing, for both export and domestic markets. The share of poultry investment, however, relatively declined as that of dairy and swine increased significantly. The growing demand of milk from domestic industry and the increasing export market of swine have been accelerating investments on those commodities. Poultry industry has also grown considerably as a

reaction of increased domestic consumption. Recently, poultry provided an poultry increasing share in meat supply and in 1991 it contributed more than 50 percent of meet consumption.

2.2.3. Price Stabilization

The government has been putting various efforts towards the stability of poultry production system. This includes the supply and price of breeding materials, seeds stocks and feed. Early warning system program has been set up to carefully monitor price and supply movement of these components. Market operations are often done by the government through import and export, usually for certain condition at which price movement is not favorable for both producer and consumer.

2.2.3.1. Price Stabilization of Final Stock.

The price of broiler final stock and commercial stock fluctuates considerably in line with meat demand movement in the country, which related to various social and religion events and holidays. Production of day old chicken (d.o.c) during the peak season often could not meet the domestic demand. This is one of the reasons at which the government intervene the supply side to stabilize the price and production system.

As can be seen in Table 7, d.o.c. price increased during the period of 1990-1992, although it decreased in 1992 relatively to 1991. The price ratio was 4.1 in January 1990, indexed as 100. The ratios in 1990 were relatively high, indicating high profitability of broiler industry. However, these ratios were declining during the last three years, as d.o.c. price grew relatively faster than broiler price.

Table 7 : Price and Price Ratio Broiler Finisher/DOC

Month	Price /head Rp			Broiler Price /kg Rp			Price Ratio Broiler/doc Jan.1990 = 100		
	1990	1991	1992	1990	1991	1992	1990	1991	1992
Jan	425	800	750	1750	2000	2100	100	61	68
Feb.	440	800	925	1750	2150	2400	97	65	63
Mar.	450	850	775	1850	2450	2600	100	70	82
Apr.	450	900	775	2000	2300	2200	108	62	69
May.	450	975	590	2000	2300	2000	108	57	82
June	450	875	590	2075	2300	2200	112	64	91
July	450	775		2150	2350		116	74	
Agst.	470	850		1600	1750		83	50	
Sep.	650	850		4850	1700		182	49	
Oct.	700	550		2050	1750		71	77	
Nov.	800	500		2050	1850		62	90	
Dec.	850	425		2300	2300		66	132	

Table 8 shows that in 1991 Indonesia produced 15.76 million of broiler doc using locally produced parent stock, in addition to 298.8 millions doc produced using imported grand parent stock, which came to total production of 314.58 million.

Table 8 : Production of Pure Line, Parent Stock and Final Stock in Indonesia, 1991

	Pure line for Meat Broiler	
	Potential	Production
Pure Line	66 000	-
Grand Parent Stock	576 000	-
Parent Stock	1 440 000	221 140
Final Stock	100 000 000	15 760 000
Final Stock from Imported Parent Stock	500 000 000	298 818 480
T o t a l		314 578 480

The domestic industry however, required about 395.15 millions d.o.c, so that there was a total deficit of 80.57 millions. This deficit, which fluctuated overtime, was always followed by significant price movements.

Parent stock is occasionally imported although the country has been net exporter during the last three years. In overcoming the instability problem, the government has made the following efforts.

a. Import d.o.c. so long as the price is lower than domestic price

b. Import Parent Stock breeder in order to produce cheaper d.o.c. locally

c. Improve the industry's capability to rear Pure Line in order to substitute Parent Stock import

The third measure is very crucial for the development of the Livestock Industrial Area, a scheme which intended to develop livestock industry through cooperation among the small and large operation.

2.2.3.2. Feed Prices

In addition to production volume, human consumption has a great influence on the availability of corn, soybeans and other cereals for feed production. For most Indonesian, soybean and other cereals are important sources of protein consumption, resulting in high competition on the use of those commodities. For food uses competition occurs between direct consumer and vegetable oil processor, while for feed uses, competition takes place among the cattle, dairy and poultry industries.

The feed industry requires 55 - 60 thousand tons of corn per month, of which, in most cases, could not be supplied by domestic production. Land competition among different industries as well as within the agriculture crops, coupled with price instability and high competition of corn uses, are the major causes of fluctuating corn production and insufficiency in the feed industry.

In the broiler business, feed accounts for 60 - 70 percent of total production cost. Efficiency on feed cost, therefore, will influence cost efficiency in the production system. Feed cost is

mainly influenced by corn, rice bran, soybean meal and fish meal prices. Supply of those components is a crucial factor to be monitored and controlled for the purpose of price stabilization. Some measures have been taken by the government to minimize fluctuation in feed prices, as follows :

a. Import of corn when supply is limited

b. Control rice bran export

c. Promote the use of substitute components

d. Release the import duty of feed components

Previously, market operation has been authorized to Bulog (The National Logistic Agency), as the only agency holding import licenses for soybean, soybean meal, corn, fish meal and other feed stuffs. Since the early 1990's this regulation has gradually been released so as to open more opportunities for other traders to import feed stuffs, with import duty ranges to 35 percent. However, under special circumstances, Bulog with the recommendation of the Directorate General of Livestock (DGLS), will import, keep stock and market the necessary amount of feed stuffs for stabilizing feed prices.

2.2.3.3. Broiler Price

Fluctuation of broiler price usually takes place during holiday seasons and other specific events (see Table 5). During the muslim holiday, price often goes up to twice as the normal price.

The pattern of price movement, nevertheless, has been identified and then anticipated by the government. In Cooperation with Bulog and meat producers, the DGLS arranges stock and market operation to minimize supply and price instability.

2.2.4. Export Market

Broiler export from Indonesia has been relatively small, primarily due to the high cost of production and inconsistency of production volume.

Table 9. Export of Poultry Products Indonesia, 1988-1992 (March)

Items		1988	1989	1990	1991	1992	Destination
1. DOC/PS	000 bird	251.6	198.2	325.6	191.6	29.8	Sin, Phil, Pakistan, Nep, Malaysia, Brunei
	000 US $	374.5	274.7	336.2	467.5	60.2	
2. DOC/FS	000 bird			474.6	510.3	37.2	Singa,Malay, Brunei
	000 US $			475.3	546.1	40.7	
3. Eggs/FS	000 piece	1793.5	4381.4	761.4	1756.3	-	Thai, Nep, Franc, Phil, Saudi, Germany
		270.2	678.6	190.6	273.1	-	
4. Eggs/ Consumption	000 piece	1841.5	134.0	1903.7	939.1	25.2	Sin, HK, Taiwan, Mal, VEA, Saudi
	000 US $	103.1	7.5	126.3	62.1	2.1	
5. Chicken Meat	000 ton	-	-	141.2	213.4	18.1	Japan
	000 US $	-	-	254.1	459.3	41.1	

Source : DGLS, 1992

As presented in Table 9, Indonesia exports d.o.c both Parent Stock (PS) and Final Stock (FS), mainly to Asian Countries. Eggs, both for breeding and consumption are exported to Asian, European as well as Arab countries, while export of chicken meat has been done to Japan. Although sometimes Indonesia import PS d.o.c., however, the country is net-exporter.

For supporting export competitiveness of poultry products, the government has been putting some efforts on :

a. Improvement of export facilities and services at lower cost
b. Promotion of foreign investment for large scale operation
c. Monitor and stabilize prices of feed and doc PS and FS

2.3. Private Sector's Role in Poultry Industry

2.3.1. Control of Production Factors

The poultry industry is characterized by three types of operations, namely government enterprise cooperatives and private enterprise. Cooperatives and private enterprise are the most common [illegible]. [illegible] the poultry industry is prioritized for the smallholders, however technically and [illegible]ically they are not strong enough to compete with the large holder. Cooperation among them [illegible] smallholder development. As stated in the ministerial Decree No.2, 1990 private enterprises are

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allowed to operate on breeding and production farms using domestic or foreign capital under the following conditions :

(a). Cooperating with smallholders least 3 years on broiler or 5 years on layer.

(b). Under the cooperation, production by the smallholders counts a larger part of the whole production for at least 3 years.

(c). Provide assistant on production inputs working capital and marketing of smallholder products based on mutual benefits

(d). Provide slaughter house and

(e). Located in the permitted zones by the government.

The maximum size of holding for broiler is 15.000 birds, per cycle, while that of layer is 10.000, with a standardized treatment on environmental control.

Under such cooperation, the revenues earned by the private enterprise as the nucleus farm, will largely depend on the productivity and quality of the plasm product. Support in farming technology and management will serve a mutual benefit to the nucleus as well as the plasm farms. This is why the private enterprise plays a great role in poultry industry.

2.3. Control of Marketing Channels

The private sector is free to control their marketing channels and one of the consequences is an increasing dependency of plasma

farms to the nucleus. This makes sense, as the plasma farms are too small to manage a large marketing region. The private enterprise, in this case, is needed to serve as product collector of the smallholders, as well as supplier for local consumers. This will then, develop a mutual cooperation which also strengthen the control on the production system.

Broiler processing is also mostly controlled by the private sector both for domestic and export market. Recommended cooperation with breeders and farmers, however, is maintained by the government.

2.4. Nucleus Farms

The nucleus plasm scheme is set up to develop mutual dependency and mutual benefit for both parties which also meant for income distribution. The role of private enterprises as nucleus farms is very crucial to the quality and productivity of the plasma farms.

III. ISSUES AND PROBLEMS

Problems and issues in the development of poultry industry could be identified as follows :

3.1. Investment

Occasionally, Indonesia still need to import : parent Stock although the country is net exporter. Investment on Breeding Farm needs relatively large capital and the domestic enterprises have limited experience in producing Pure Lines (PL). In view of promoting technological capabilities in this case, inviting foreign enterprise or experts would be the best way to do. The existing foreign enterprises could only supply about 5 percent of FS needed by the industry.

The government has been trying to encourage the development of private breeding forms by buying most of FS produced. The FS are distributed as credit to plasm farms which enroll in the nucleus-plasma scheme. The government credit however, are channeled through the banks, such that only limited farmers have the access. For this reason, the plasma could not develop rapidly as it is expected, resulting in slow movement of other component business. Involving the private sector in developing plasma farms therefore, with the help of private banks, would accelerate the development of the industry.

3.2. Plasma Farm Development

As discussed before, the private sector development depends on the development of individual enterprise. On the other hand, individual enterprise depends on public funds which could be used for investment. The larger enterprise by holding larger capital will tend to develop control over the smallholder through investment credit marketing channels. This could lead to market liberalism, especially in the case of rapid demand for broiler meat.

Many variables in the business could not be controlled by the government. However, through regulations and nucleus-plasma scheme the government is seriously trying to help encourage the development of smallholders. It is understood that in order to achieve this goal, improvements need to be made to minimize exploitation of large operation on the smallholders. The Presidential Decree no 22, 1990 is one example of government measure related to that issue.

3.3. Raw material for Feed

Feed accounts for 60-70 present of total production. High cost of feed has been the problems of smallholders, because at that level, only large enterprises could utilize the economic scale of

the operation. Raw material of feed are corn, rice bran, soybean meal and fish meal, which are still imported for various reason discussed before. The current situation on production and consumption of corn, soybean and fish meals, indicates that Indonesia will still face the problems of high cost of feed, at least in the next several years.

IV. CONCLUDING REMARKS

1. The role of private sector in the development of poultry industry depends on the economic policy applied in the country. The broiler industry is considered as income source as well as employment opportunities, such that capital intensive operation (largescale) should not be allowed to compete the labor intensive (smallholder), except for export product. The private large companies are allowed to produce the high technology inputs such as breeder-stock, feed, vaccine and medicines but not in meat production.

2. As the private sector control the production and distribution of production inputs, they are obliged to fulfill the social mission to assist the development of small farms. The government's role will be on the services especially the provision of cheap credit to smallholders.

Regional Workshop on
the Role of Private Sector in Agriculture Development and in the Poultry Industry: Impact Analysis and Policy Issues

22 – 25 September 1992
ASEAN ADPC, Bangkok, Thailand

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COUNTRY REPORT

MALAYSIA

LIM ENG SIANG
MINISTRY OF AGRICULTURE,
MALAYSIA.
July, 1992

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MALAYSIA

THE ROLE OF PRIVATE SECTOR IN AGRICULTURE DEVELOPMENT: IMPACT ANALYSIS AND POLICY ISSUES

EXECUTIVE SUMMARY

The private sector has been the main driving force in the development of commercial plantation tree crops since the nineteenth century. Large scale planting of rubber began in the early 1900s stimulated by high prices of rubber and encouraged by the colonial government through liberal alienation of suitable land for estates and intake of labour from South India. The successful cultivation of rubber for export on a large scale laid the foundation of modern plantation agriculture in Malaysia based on private entrepreneurship which has developed the skill of plantation management, the capability to exploit the state-of-the-art technologies and the foresight to switch from one crop to another when the situation warrants. In 1990, estates accounted for 22 per cent of the total 1.5 million hectares under rubber, 47 per cent of the 2.0 million hectares under oil palm and 44 per of the 420,000 hectares under cocoa.

Private sector investments in perennial crops have contributed significantly to the development of the agricultural sector and the national economy. In 1950, over half of the national output, employment and export earnings was generated in the agricultural sector. Lately due to the industrialisation of the economy, the share of the agricultural sector in the economy has shown a declining trend. In 1990, agriculture accounted for 18.9 per cent of the gross domestic product, 22 per cent of total exports and just under 30 per cent of the total labour force. While the slower growth of the agricultural sector relative to the other

sectors and as such the further reduction in its share can be taken as expected over time, the government is concerned over its capacity and resilience in future.

Steps are being taken by the government to maintain and sustain the major role of the agricultural sector in the economy. Investment tax incentives such as pioneer status, investment tax allowance, export allowance, agriculture allowance, deduction for capital expenditure on approved agricultural projects are designed to promote greater private sector investments in the agricultural sector. Other tax incentives such as incentives for research and development and incentives for training are extended to the agricultural sector. Cheap financing facility such as the export credit refinancing scheme is provided by the Central Bank to promote the export of agricultural products.

The policies and programs of the government are able to attract substantial private sector investments to the agro-based industries such as the rubber-based industries, the palm oil-based industries and the wood-based industries but not so to the agricultural production industries except the poultry industry. Several factors hindered the expanded growth of the agricultural sector in the 1980s. At the macro level, government fiscal policies had attracted more private sector investments to the manufacturing sector than to the agricultural sector. The present tax incentives for the agricultural sector are rather limited in the coverage of eligible producers. At the micro level, rising production costs in particular due to labour shortages, higher production and marketing risk and lower returns in agricultural production activities are important limiting factors to private sector investments in the agricultural sector.

In view of labour shortages in the economy, it is recommended that the tax incentives for the agricultural sector be restructured to shift the focus from production per se to modernisation of the sector. Tax incentives should be

used to promote private sector investments in labour-saving technologies and technologies which raise land and labour productivities and farm efficiency.

MALAYSIA

THE ROLE OF PRIVATE SECTOR IN AGRICULTURE DEVELOPMENT : IMPACT ANALYSIS AND POLICY ISSUES

1. INTRODUCTION

The private sector has been the main driving force in the development of commercial plantation tree crops since the nineteenth century. The plantation industry began in the mid-nineteenth century, and involved primarily the growing of tapioca, gambier, pepper and coffee for export. Rubber attracted the interests of entrepreneurs in the early 1990s and its cultivation spread rapidly after 1900 because of high rubber prices generated by growing demand, mainly for pneumatic tyres and footwear. The colonial government encouraged the large-scale planting of rubber through liberal alienation of suitable land for estates and intake of labour from South India. As a result, by 1920 the total area under rubber reached 882,700 hectares, and it became the major single source of export revenue for the country (1). Since then, the planted area of rubber continued to expand rapidly. In 1960, rubber accounted for nearly 69 per cent of the estimated 2.3 million hectares of land under principal crops in Peninsular Malaysia.

The successful cultivation of rubber for export on a large scale laid the foundation of modern plantation agriculture in Malaysia based on private entrepreneurship which has developed the skill of plantation management, the capability to exploit the state-of-the-art technologies and the foresight to switch from one crop to another when the situation warrants. To indicate the dynamism of the private sector, the plantations have been able to switch from coffee and gambier to rubber and then to oil palm and lately to cocoa. In 1963, estates accounted for 46 per cent of the total

of 1.7 million hectares under rubber in Peninsular Malaysia. By 1990, estates accounted for only 22 per cent of the total of 1.5 million hectares under rubber. The decline is due mainly to diversification to other crops like oil palm and cocoa. In 1990, estates accounted for 47 per cent of the 2.0 million hectares under oil palm, while the organised and unorganised smallholders accounted for the balance of 45 and 8 per cent respectively. Planted area of cocoa on estate accounted for 44 per cent of total area of 420,000 hectares in 1990. Malaysia is now a leading producer and exporter of natural rubber, palm oil, cocoa and pepper.

Private sector investments in perennial crops have contributed significantly to the development of the agricultural sector and the national economy. In 1950, over half of national output and employment was generated in the agricultural sector. Rubber output was slightly less than a third of gross domestic product(GDP). During the 1st and 2nd Malaysian Plan periods of 1966 t0 1975, private investment in perennial crops, in particular oil palm, accounted for 19 per cent of the total private investment of 10258 million ringgit. Agricultural growth has improved the livelihoods of the majority of the people employed in the sector and has contributed substantially to the reduction of poverty. It has also been supporting the development of the other sectors, in particular manufacturing sector, by providing the resources as well as the market necessary for their expansion. Most important, the sector has been a major earner of foreign exchange, averaging about 55 per cent of merchandise export earnings in the 1960 to 1980 period. This impressive contribution has been a major reason why Malaysia has not suffered from lenghtly of pronounced balance of payment crisises. Hence it can be said that the high economic growth achieved in Malaysia up to 1980 has been due mainly to the impressive growth in agriculture, both directly as well as indirectly.

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Lately due to industrialisation of the economy partly the result of the deliberate policies undertaken by the government, the share of the agricultural sector in the economy has shown a declining trend. Agriculture, including livestock, forestry and fishing accounted for 40.6 per cent of the GDP in 1960 but its contribution shrank progressively to 32.1 per cent in 1970 to 22.9 per cent in 1980 and 18.9 per cent in 1990. The share of total exports had fallen correspondingly during these three decades from 52 per cent to 42 per cent, 30 per cent and 22 per cent. Naturally, the proportion of employment in the agricultural sector has also decreased, from well over one half of total labour force to about 40 per cent in 1980 and just under 30 per cent in 1990. These declining trends are expected to continue in the future given the rapid growth of the manufacturing and services sectors. In 1987, the manufacturing sector by-passed the agricultural sector to assume the leading role in the economy, both in term of its contribution to GDP as well as its growth.

While the slower growth of the agricultural sector relative to other sectors and as such the further reduction in its share can be taken as expected over time, the government is concern about its capacity and resilience in the future. This paper will discuss some of the major policies and programs undertaken by the government to maintain and sustain the major role of agriculture in the economy within the context of industrialisation and privatisation. An effort is made to assess the respond of the private sector to government policies and programs in the 1980s. Attempt will be made to identify some of the major policy constraints inhibiting private sector participation in the agricultural sector. The concluding remarks include recommendations on policy adjustments needed to enhance private sector-led growth in the agricultural sector.

2. REVIEW OF POLICIES AND PROGRAMS AFFECTING PRIVATE SECTOR IN AGRICULTURE

In the 1980s, the government provided various types of incentives to attract private sector investments to the manufacturing, agricultural and tourism sectors. However, several factors hindered the expanded growth of agricultural output in the 1980s. The agricultural sector was beset with problems, both at macro and micro levels. At the macro level, government fiscal policies had attracted more private sector investments to the manufacturing sector than to the agricultural sector. At the micro level, rising production costs in particular due to labour shortages, higher production and marketing risk and the relatively lower returns of agricultural production activities were important limiting factors to private sector investments in the agricultural sector.

2.1 Fiscal Policies

Taxation is normally considered as a major instrument of government to generate revenue. However, when tax incentives and protective import duties were introduced in 1950s, taxation has become a tool of economic fiscal policies to induce a greater and more rapid flow of private sector investment to promoted industries. Taxation in Malaysia is neither sector neutral nor enterprise neutral.

2.1.1 Effective Rate of Protection (ERP)

The effective rates of protection (ERP) calculated for 15 selected agriculture and non agriculture industries are shown in Table 1. In general, the agricultural sector has a lower ERP when compared to the manufacturing sector. Heavy industry, wood-based industry, rubber products, plastic products, textiles and clothing enjoy higher ERP while agricultural products such as fisheries, dairy products, livestock, fruits, vegetables and animal feed enjoy lower rates of protection.

As the ERP indicates the amount by which local value-added could be increased over and above the value-added of

similar imported products without jeopardising its competitiveness in the local market, it is therefore also indicative of the amount by which the price of a locally manufactured product could be increased in the local market over the price of similar imports. On this understanding the finding of a generally lower ERP for the agricultural sector as compared to the manufacturing sector means that on an inter-industry comparison basis, the possibility of making a higher return to investment lies in the latter. This is a significant factor to note, as it implies that the present tariff structure has placed the manufacturing sector on the higher scale of economic viability, and therefore has created a bias to generally encourage the flow of investment and resources towards this sector.

Table 1: ERP For Selected Industries

	Industry	ERP%
1	Fisheries	0.2
2	Dairy products	2.7
3	Veg/fruits	8.5
4	Livestock	12.0
5	Animal feed	15.0
6	Confectionery	24.0
7	Other foods	2.0
8	Other agric.	15.0
9	Textiles	26.0
10	Clothing	24.0
11	Furniture	42.0
12	Rubber products	29.0
13	Plastic	26.0
14	Elec. machinery	15.0
15	Motor vehicles	74.0

Source: Min. Of Agriculture,1991

2.1.2 Export Incentives Under Customs and Sales Tax Acts.

2.1.2.1 CUSTOMS ACT, 1967

Under Section 99 of the Customs Act, drawback of import duty and surtax is granted in respect of all goods that are used as a part or an ingredient in the manufacture of finished export products.

2.1.2.2 SALES TAX ACT, 1972

Exemption from sales tax on export of taxable goods or

drawback of sales tax is allowed under the Sales Tax Act, 1972. The purpose of granting exemption and drawback of duties and taxes on exports is to provide relief from the burden of local taxes and duties, thereby enabling the exporters to offer competitive prices.

2.1.3 Investment Tax Incentives

One of the major tools used by the government to encourage private sector investment in selected industries is the provision of tax incentives. The principal legislations that govern the granting of tax incentives for promoted products/activities are the Promotion of Investments Act 1986 and the Income Tax Act 1967.

The tax incentives are basically provisions for total or partial relief from income tax. Under the existing incentives, within the ambit of these legislations, any `commercial undertakings' can qualify for the incentives. In short, the incentives available to all other industries, are generally also available to promoted commercial agricultural and agro-based activities.

2.1.3.1 Promotion Of Investments Act, 1986 (PIA)

The Promotion of Investments Act 1986 (PIA) was gazetted on 15th May 1986 and is deemed to have come into force on the 1st January 1986 and shall have effect for the year of assessment 1987 and subsequent years of assessment. Where approval in respect of any application, whether made before or after the commencement of this Act, is granted under this Act respectively from a date prior to the 1st January 1986, this Act shall have effect from such date.

Under this Act, the Minister of International Trade and Industry shall from time to time determine the list of promoted activities or promoted products.

Under Gazette Notification No: P.U.(A) 391 dated 13th

November 1986, all agricultural production activities except for the planting of rubber, oil palm and coconut have been gazetted as promoted products or promoted activities. Recently the list of promoted agricultural activities was amended and the amended list is shown in Appendix 1.

(I) PIONEER STATUS

One major incentive under the PIA is Pioneer Status. Section 5 of the PIA provides for application of Pioneer Status. Sub-section (1) of the section states that:

> "Any company or person proposing to register a company, being desirous of establishing or participating in a promoted activity or of producing a promoted product and intending that a factory be constructed, or where the factory is already in existence, be occupied in Malaysia for that purpose, may make an application in writing to the Minister for Pioneer Status, or for Pioneer Status to be given when the proposed company has been registered, in relation to that activity or product and that factory."

Once a company has been granted Pioneer Status it shall within 6 months of the date of approval or such extended period as the Minister may allow request for a Pioneer Certificate. In so doing, the company should indicate the date on which the project commences the production of the promoted product in marketable quantities and the rate of production. This will entitle the company to five years of partial tax relief irrespective of the level of investment commencing from production day. Companies will be levied tax of about 10 per cent on their profits, by way of an abatement of 70 per cent of their statutory income for 5 years with the balance of 30

per cent of that statutory income being taxed at the current corporate tax rate.

Strategic projects of national importance such as those with heavy capital investment and high technology which can generate extensive linkages and have a significant impact on the economy can be considered for 100 per cent tax exemption on a case-by-case basis.

Section 13 of the Act allows for companies as well as agro-based co-operative societies, Area Farmers' Associations, State Farmers' Associations, Area Fishermen's Associations, State Fishermen's Associations, sole proprietorships, partnerships, or associations solely engaged in agriculture to apply for Pioneer Status.

(II) INVESTMENT TAX ALLOWANCE (ITA)

The Investment Tax Allowance (ITA) is an alternative to the Pioneer Status and is designed to cater for projects which have large capital investment and long gestation period.

ITA is an allowance given to be set off against the statutory income. The allowance given is 60 per cent of qualifying capital expenditure. The qualifying capital expenditure must be incurred within 5 years from the date of approved of the ITA. The amount of ITA to be abated for each assessment year will be limited to a maximum of 70 per cent of the statutory income.

When the ITA is given to a company for a year of assessment, so much of the statutory income of the company for the basis period for that year as is equal to the amount of the allowance shall be exempted from tax for that year of assessment.

When income for the year is insufficient to offset the allowance which the company is entitled to, then, so much of the allowance in question that cannot be given for the

year, shall be deemed to be an allowance to be given to the company for the first subsequent year of assessment for which there is statutory income from that business, and so on for subsequent years of assessment until the company has offset against profits the whole of the allowance to which it is entitled.

To assist agricultural projects to enjoy greater benefits, the Government has broadened the definition for qualifying capital expenditure to include the following:

(a) the clearing and preparation of land;

(b) the planting of crops;

(c) the provision of irrigation or drainage systems;

(d) the provision of plant and machinery used in Malaysia for the purposes of crop cultivation, animal farming, aquaculture, inland or deep-sea fishing and other agricultural or pastoral pursuits;

(e) the construction of access roads including bridges;

(f) the construction or purchase of buildings (including those provided for the welfare of persons or as living accommodation for persons) and structural improvements on land or other structures which are used for the purposes of crop cultivation, animal farming, aquaculture, inland fishing and other agricultural or pastoral pursuits, and

(g) provided that for the purposes of paragraphs (e) and (f) such roads, bridges, buildings, structural improvements on land and other structures are on land forming part of the land used for the purpose of such crop cultivation, animal farming, aquaculture, inland fishing and other agricultural or

pastoral pursuits.

As mentioned earlier as in the case of Pioneer Status, the definition of companies also includes sole proprietorships, partnerships, and relevant associations. In view of the time lag between start up of the agricultural project and processing of the produce, integrated agricultural projects are eligible for ITA for another period of five years for expenditure incurred for their manufacturing.

(III) EXPORT ALLOWANCE

The incentive is provided under section 39 of the Promotion of Investments Act 1986.

The export allowance incentive is available to:

(a) resident agricultural cum exporting companies, agro-based co-operative societies, associations, sole proprietorship, and partnerships which are solely engaged in the production and export of agricultural produce; and

(b) resident trading cum exporting companies which are engaged in trading and exporting of agricultural produce and/or products which are manufactured by local manufacturers in Malaysia.

Trading company refer to company whose primary activity is the trade in and exporting of agricultural produce or manufactured products which are purchased from farm producers or manufacturers in Malaysia.

As the export allowance is intended to be an extension of Pioneer Status or ITA, it is not given to companies granted Pioneer Certificate, labour utilization relief, locational incentives and investment tax credit under the repealed Investment Incentives Act 1968 or those granted Pioneer Status, Pioneer Certificates and Investment Tax

Allowance for any promoted activity or promoted product under the Promotion of Investments Act 1986 until the expiration of the said incentives under the respective laws. It is also not given to companies which have already been given an abatement of income for exports in respect of the same product.

The list of agricultural produce eligible for export allowance will be determined from time to time by the Minister of International Trade and Industry and will be published by Statutory Order in the Gazette. The current list of agricultural produce eligible for export allowance is shown in Appendix 2.

The Export Allowance is 5% of the gross income derived from export. Gross income is the FOB value of the agricultural produce or products manufactured in Malaysia that are exported. With effect from the year of assessment 1994 for exports beginning from 1.1.1993 the rate of export allowance will be reduced to 3 per cent. For the year of assessment 1995 for exports beginning from 1.1.1994 this incentive will be abolished.

(IV) ABATEMENT OF INCOME FOR EXPORTS

The incentive is provided under Section 36 of the Promotion of Investments Act 1986.

The incentive is available to all resident manufacturing cum exporting companies. To be eligible for the incentives, manufacturing companies must either export directly or through an agent (one to whom the title of the goods do not pass) products which are manufactured by them in Malaysia. Companies which sell their manufactured products to an intermediary selling agent, including a trading company or another manufacturing company, which subsequently export the products, will not qualify for the abatement.

The abatement is not given to manufacturing companies

granted Pioneer Certificate, labour utilization relief, locational incentives and investment tax credit under the repealed Investment Incentives Act 1968 or those granted Pioneer Status, Pioneer Certificates and Investment Tax Allowance for any promoted activity or promoted product under the Promotion of Investments Act 1986 until the expiration of the said incentives under the respective laws.

The abatement of statutory income is based on a rate of abatement which is equivalent to 50% of export sales as bears total sales, or expressed in the following formula:

$$\frac{\text{Export Sales}}{\text{Total Sales}} \times 50\% = \text{Rate of Abatement}$$

Total sales is the aggregate of export sales and domestic sales. Export sales is taken at FOB value whilst the domestic sale is per audited account. The abatement of statutory income is arrived at by multiplying the statutory income by the rate of abatement.

With effect from the year of assessment 1994 for exports beginning from 1.1.1993, the rate of abatement of income for export will be reduced as calculated below:-

$$\text{Rate of abatement} = \frac{\text{Export Sales}}{\text{Total Sales}} \times 25\%$$

For the year of assessment 1995 for exports beginning from 1.1.1994 this incentive will be abolished.

(V) DEDUCTION FOR PROMOTION OF EXPORTS

The incentive is provided under section 41 of the Promotion of Investments Act 1986.

The incentive is available to all resident manufacturing, trading and agricultural companies in respect of approved

outgoings and expenses which are incurred primarily and principally for the purpose of seeking opportunities, or in creating or increasing a demand for the export of goods or agricultural produce produced in Malaysia.

Pioneer companies are also eligible for the deduction except that no deduction will be made during the tax relief period. The deductions instead, will be accumulated and allowed against the adjusted income of the post-pioneer business immediately after the end of the tax relief period.

Companies approved by the Minister of International Trade and Industry are also allowed double deductions in respect of certain expenses incurred for participation in approved international trade fairs held in Malaysia.

2.1.3.2 INCOME TAX ACT 1967 (AMENDED 1986)

The Income Tax Act provides several incentives for agricultural activities and agro-based industries. Some of the incentives in this Act relevant to the agricultural sector are:

(I) AGRICULTURE ALLOWANCE

Under the Agriculture Allowance, certain capital expenditure incurred in agricultural activities will be eligible for deduction as follows:

(a) expenditure incurred on the clearing and preparation of land, planting of crops and construction of roads for purposes of agriculture is eligible for a yearly allowance of 50% of the expenditure incurred;

(b) expenditure incurred on construction of a building for the welfare of persons or living accommodation for a person can be written off at a rate of 20% per annum; and

(c) expenditure incurred on the construction of

any other building used for the purposes of working the farm can be written off over a period of 10 years, that is at the rate of 10% per annum.

(II) DEDUCTION FOR CAPITAL EXPENDITURE ON APPROVED AGRICULTURAL PROJECTS

In 1989, the Government introduced another incentive called 'Capital Expenditure On Approved Agricutlural Projects' under schedule 4A of the Income Tax Act 1967 to allow a person carrying on an approved agricultural project to elect so that the qualifying capital expenditure incurred by him in respect of that project is deducted from his aggregate income, including income from other sources. Where he so elects, he will not be entitled to any capital allowance or agricultural allowance on that same capital expenditure. The qualifying capital expenditure eligible for deduction for purposes of this incentive are as follows:

(a) the clearing and preparation of land;

(b) the planting (but not replanting) of a crop relating to an approved agricultural project;

(c) the construction on a farm of a road or bridge;

(d) the construction on a farm of a building used for the purposes of an approved agricultural project which is carried out on that farm or the construction on that farm of building provided for the welfare and accommodation of persons employed in that project and which, if that project ceased to be carried out, is likely to be of little or no value to any person except in connection with the working of another farm; and

(e) the construction of a pond or the installation

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of an irrigation or drainage system which is used for the purposes of an approved agricultural project.

Approved agricultural project means an agricultural project approved by the Minister of Finance. Only qualifying capital expenditure incurred within a specific time frame and in respect of a farm cultivating and utilising a specified minimum hectarage for each approved project as stipulated by the Minister of Finance will qualify (Refer Appendix 3). The incentive is available from year of assessment 1989. This incentive is not given to companies granted Pioneer Certificate, labour utilization relief, locational incentives and investment tax credit under the repealed Investment Incentives Act 1968 or those granted Pioneer Status, Pioneer Certificates and Investment Tax Allowance for any promoted activity or promoted product under the Promotion of Investments Act 1986 until the expiration of the said incentives under the respective laws.

Where there is insufficient aggregate income for the qualifying farm, expenditure to be deducted from the unabsorbed expenditure will be carried forward to subsequent years of assessment.

(III) <u>REINVESTMENT ALLOWANCE</u>

This incentive is only available to manufacturing projects including agricultural processing and integrated agricultural project. The incentive was introduced in 1979. Existing companies engaged in expansion of production capacity, modernisation of production facilities and diversification into related products are eligible to apply for the incentive. The rate of reinvestment allowance is 40 per cent on capital expenditure of plant, machinery and industrial building incurred by large companies and 50 per cent for capital

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expenditure incurred by small scale companies (companies with shareholders' fund of $500,000 and below). It is deductible from adjusted income. This incentive is available to companies until 31.12.1995.

(IV) INCENTIVES FOR RESEARCH AND DEVELOPMENT

The following incentives are available to encourage R&D in industry:

(a) Expenses of a revenue nature incurred by a person on scientific research related to his business and directly undertaken by him or on his behalf is eligible for a single deduction. Revenue expenditure incurred for research approved by the Minister of Finance is eligible for double deduction.

(b) Industrial Building Allowance in the form of an initial allowance of 10% and an annual allowance of 2% is available for building used for purposes of approved research notwithstanding that the research is not related to that business.

(c) Plant and machinery used for purposes of approved research are eligible for capital allowances, notwithstanding that the research is not related to that business.

(d) Double deduction for cash contribution made to approved research institutions.

(e) Double deduction for revenue expenditure incurred for the use of facilities and services of approved research companies or institutions.

(f) R&D companies approved by the Minister of Finance are given the following incentives:
(i) a tax holiday for a period of 5 years;
(ii) tax exempt dividends; and

(iii) carry forward of accumulated losses sustained during the tax relief period to the post-tax relief period.

These incentives is also extended to new technology-based firms.

(V) INCENTIVE FOR TRAINING

Training expenses billed by approved training institutions will be eligible for double deductions.

(VI) INDUSTRIAL BUILDING ALLOWANCE

Approved buildings used as warehouses and as bulk storage installations used for storing goods for export are eligible for the Industrial Building Allowance consisting of an initial allowance of 10% and an annual allowance of 2%.

(VII) DOUBLE DEDUCTION FOR EXPORT CREDIT INSURANCE PREMIUM

To encourage exporters to penetrate into non-traditional markets, premium payments on export credit insurance, insured with a company approved by the Ministry of Finance, are eligible for double deductions. This is with effect from year of asessment 1986.

2.2. EXPORT CREDIT REFINANCING SCHEME OF BANK NEGARA (ECR)

The Export Credit Refinancing Scheme (ECR) was started as early as 1977 and it was designed specifically to meet the needs of exporters for finance. Bank Negara operates two types of refinancing facilities.

(a) Post-Shipment Refinancing (introduced in January 1977) to enable exporters to obtain immediate funds upon shipment of eligible goods which are sold on credit terms; and

(b) Pre-shipment Refinancing (introduced in March 1979) to provide working capital to exporters and/or manufacturers for the production of eligible goods for exports.

Coverage of goods under the scheme for both facilities is determined by a negative list. Any product not included in the list is eligible for refinancing. Almost all agricultural products are not included in the negative list.

The main features of the ECR scheme are given in Appendix 4.

3. THE PRIVATE SECTOR IN AGRICULTURE DEVELOPMENT : ROLE AND IMPACT ANALYSIS

As regards tax incentives, the manufacturing sector enjoys the following incentives which are not extended to the agricultural sector.

(i) The Abatement of Adjusted Income. For export-based manufacturing companies, the Abatement of Adjusted Income is very attractive (maximum 50% for a company which export 100% of its products) whereas for export-based agricultural production companies, the Export Allowance is only 5% of FOB value of export sales.

(ii) Existing manufacturing companies engaged in expansion of production capacity, modernisation of production facilities and diversification into related products are eligible to apply for the reinvestment allowance. This incentive is given in the form of an allowance of 40% of the capital expenditure on plant, machinery and factory building.

In general, the present tax incentives 'favour' the manufacturing sector. The preferential tax treatment of the manufacturing sector means that the tax burden of the

manufacturing sector is reduced relative to that of the agricultural sector. The manufacturing sector's welfare, as measured by the change in economic surplus, may be increased if its tax burden is reduced and the aggregate sectoral supply curve shifts outward. For the manufacturing industries relative to other industries, we expect that because of the implied decreased cost of investment, the amount of capital available to the sector will be increased relative to other sectors of the economy. In the longer term, the preferential tax treatment of the manufacturing sector may reduce the incentive for investment in agriculture, ultimately shifting the agricultural sector supply curve inward.

We still do not know to what extent the various investment incentives affect the flow of investment ringgit into various sectors of the economy. Investors respond to many factors in their investment decisions. The only indication of the respond of private sector investors to investment incentives is the number of project approval issued by the Malaysian Industrial Development Authority (MIDA) as shown in Table 2.

The figures in Table 2 indicate that the favourable investment climate, liberal foreign investment policies, attractive tax incentives and higher effective rates of protection have positive impacts on investment flow into the manufacturing sector. The growth in investment in the manufacturing sector accelerated significantly during the Fifth Malaysia Plan period with proposed capital investment in approved manufacturing projects expanding by more than five fold. Manufacturing output expanded significantly during the Fifth Plan period. Valued added in the sector registered a remarkable rate of growth of 13.9% per annum (5). With this rapid expansion, the sector's share in GDP rose from 19.7% in 1985 to 27% in 1990 surpassing that of the agricultural sector since 1987.

While private sector investors responded positively in

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the manufacturing sector, this was not so in the agriculture sector. The private sector proposed capital investment in agricultural production projects approved with tax incentives increased from $70 million in 1986 to $440 million in 1988 but declined to $110 million in 1990. The significant increase in proposed capital investment in 1986 could be due to factors such as the lack of investment opportunities in other sectors of the economy during recession and the provision of land at low premium by State Governments in 1986, 1987 and 1988. The total proposed capital investment in agricultural production projects is only 1.66% of total proposed capital investment in manufacturing projects during the Fifth Plan period. One may conclude from the figures that given the preferential tax treatment in the manufacturing sector, the agricultural sector has become a less attractive sector to private sector investors.

TABLE 2: PROJECTS APPROVED BY THE MALAYSIAN INDUSTRIAL DEVELOPMENT AUTHORITY (1986-1990)

	Manufacturing Sector		Agricultural Production	
Year	No.	Proposed Capital Investment ($ billion)	No.	Proposed Capital Investment ($ billion)
1986	281	5.3	18	0.07
1987	239	3.9	39	0.11
1988	732	9.3	76	0.44
1989	784	12.2	83	0.24
1990	906	23.1	55	0.10

Note:
Manufacturing Sector: includes food processing, beverages, palm oil products, rubber products and wood products
Agricultural Production Sector : includes integrated agricultural projects but excludes rubber, oil palm and coconut cultivation, and food processing

Ever though the investment climate of the agricultural sector is comparatively unfavourable, certain industries in the sector and the agro-based sector such as the poultry

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industry, the rubber products industry, the palm oil products industry and timber industry have shown significant growth as a result of substantial private sector investments in these industries.

3.1 Growth Of The Poultry Industry

The poultry industry in Peninsular Malaysia has evolved from an insignificant backyard industry to a highly industrialised one today. Significant structural change has occured in the last 5 years.

During the nineteen twenties and thirties, poultry rearing was mainly confined to small backyard operations. The local kampong fowl was widely reared for self-consumption with an occassional supply being available for sale. It was reported just before the Second World War, the poultry industry was essentially a backyard one, with the country importing over 55 million eggs and 1 million live poultry annually to meet the country's requirement.

In the 1940s and 1950s disease prevention and therapeutics was introduced by the Department of Veterinary Services especially in the control of Ranikhet (or Newcastle) diseases. Free vaccinations were carried out and by early 1950s with the control of the Ranikhet disease, large farms began to be established. The trend towards commercial production was initiated. Better strains of poultry were imported and by the late fifties several large commercial farms were established and specialisation of poultry farms began to take place.

To induce further growth of the industry, import tariff was introduced in 1961 and the Animal Rules was implemented by the Department of Veterinary Services in 1962. The protective measures effectively help to build up the poultry industry. The first of the commercial feed mills was established in the early sixties and was producing balanced rations for poultry and pigs and thus contributing further to the development of

the industry.

The Government introduced investment incentives in 1985 to promote greater industrialisation of the industry. An aggressive campaign was carried out by the Ministry of Agriculture to promote integrated poultry enterprises and contract farming system during the recession years of 1986 to 1988. With the encouragement provided by the Government, the first grandparent stock farm was established in 1989 by a foreign investor followed by another farm by a local investor in 1990. Five modern poultry processing plants with a total processing capacity of about 100,000 birds per day were established during the last 6 years and a `further processing' plant was established in 1991. The total approved private sector capital investment in the poultry industry between 1987 to 1990 was 105 million ringgit.

With the help of Government policies, the poultry industry passed through a period of steady expansion in the sixties and seventies and an accelerated expansion in the eighties. Poultry meat production increased from 21,300 tonnes in 1960 to 314,000 tonnes in 1990 (Table 3); an increase of 1,374% over the 30 years period. While the expansion of poultry meat production was steady from 1960 to 1980 with an average addition of about 23,300 tonnes every 5 years, the eighties registered an addition of about 200,000 tonnes. Egg production showed similar growth pattern. Production of eggs increased by 2,160% from 200 million eggs in 1960 to 4,700 million eggs in 1990 (Table 4) . The expansion of egg production was steady in the

TABLE 3: POULTRY MEAT IN PENINSULAR MALAYSIA

YEAR	PRODUCTION ('000TONNE)	CONSUMPTION ('000TONNE)	SELF-SUFFICIENCY
1960	21.3	23.0	93
1965	41.0	43.0	95
1970	61.0	61.0	100
1975	93.0	93.0	100
1980	114.5	117.2	98
1985	221.4	212.2	104
1986	248.8	234.1	106
1987	277.2	242.8	114
1988	301.0	253.0	119
1989	326.7	261.0	125
1990	314.0	274.0	114

SOURCE: DVS,1991.

sixties and seventies adding an extra 2,103 million eggs over the 20 years period whereas in the eighties the additional production was 2,389 million eggs.

Total consumption of poultry meat and eggs followed closely the growth trends of production given the import restriction of poultry products. Exportable surplus appeared in the mid 1980s. In 1990, about 14% of poultry and 10% of eggs produced in excess of local demand were exported mainly to Singapore.

TABLE 4: EGGS IN PENINSULAR MALAYSIA

YEAR	PRODUCTION (MILLION EGGS)	CONSUMPTION (MILLION EGGS)	SELF SUFFICIENCY
1960	208	358	58.1
1965	815	880	92.6
1970	1113	1118	99.5
1975	1906	1919	99.4
1980	2311	2311	100.0
1985	3076	2948	104.3
1986	3270	3222	101.5
1987	3450	3250	106.2
1988	3860	3381	114.2
1989	3900	3580	108.9
1990	4700	4267	110.2

SOURCE: DVS,1991

TABLE 5:POULTRY IN PENINSULAR MALAYSIA

YEAR	PER CAPITA CONSUMPTION	
	MEAT KG	EGGS NOS
1960	3.4	60
1965	5.2	107
1970	6.9	127
1975	9.3	190
1980	10.2	210
1985	16.4	227
1986	17.6	243
1987	17.9	252
1988	18.2	243
1989	18.3	248
1990	18.8	292

SOURCE: DVS, 1991

Poultry meat has increasingly become a cheaper source of protein in comparison to beef, mutton and pork (Figure 1). Retail prices of poultry products, corrected for inflation, have declined since 1970 (Figure 2 and 3). This together with the effect of higher income have encouraged the rapid growth in per capita consumption of poultry meat and eggs over the last three decades. Estimated per capita consumption of poultry meat increased by 453% from 3.4 kg in 1960 to 18.8 kg in 1990) and per capita consumption of eggs increased by 387% from 60 eggs in 1960 to 292 eggs in 1990 (Table 5).

The above growth trend in production and the declining trend in real prices could easily be taken as evidence that the private sector is efficient and has the capacity to meet future domestic demands. These trends suggest that growth in

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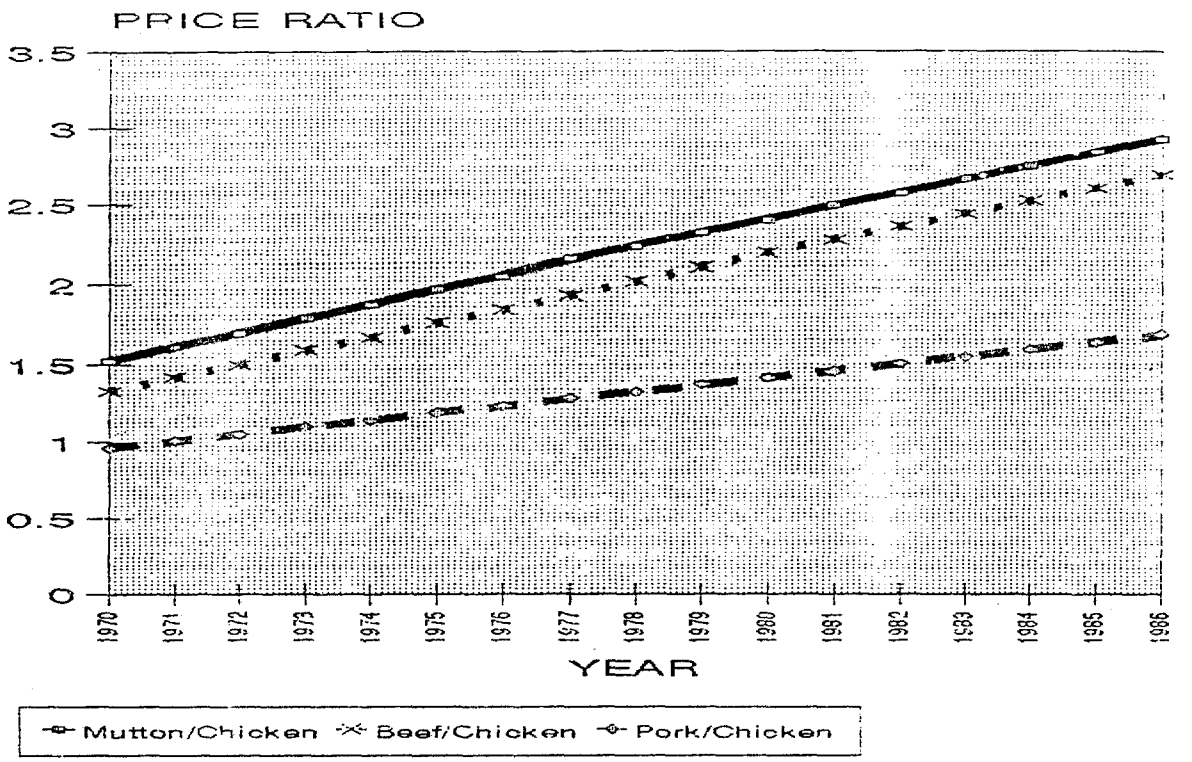
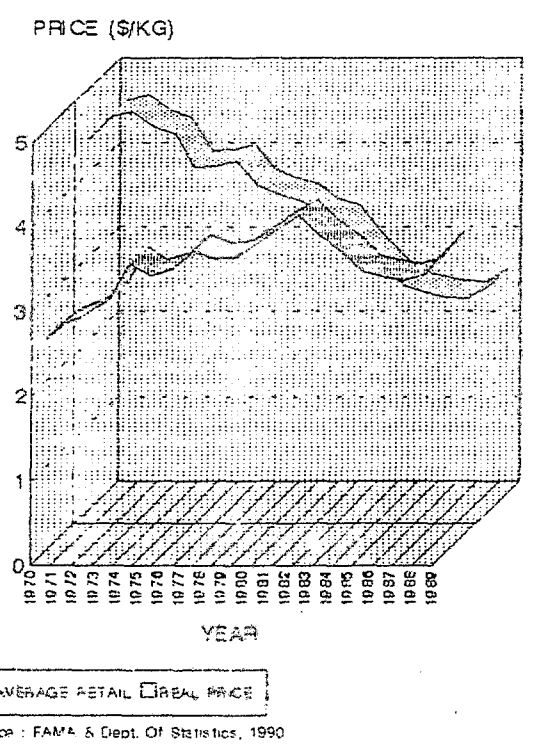
Figure 1: Ratio Of Retail Prices Of Livestock Meat Against Broiler Chicken
(1980 = 100)



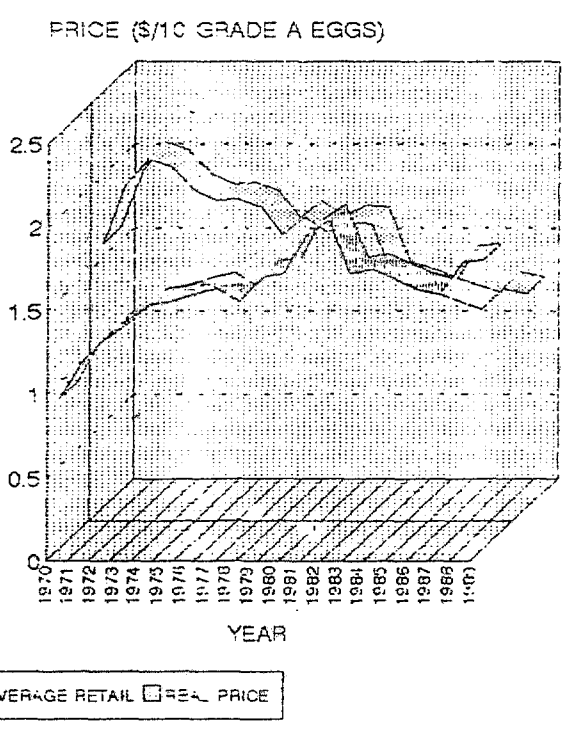
Source : Ministry Of Agriculture, 1992

Figure 2: Retail & Real Prices Of Broiler Chicken
PENINSULAR MALAYSIA



Source : FAMA & Dept. Of Statistics, 1990

Figure 3 : Retail & Real Prices Of Chicken Eggs
PENINSULAR MALAYSIA



Source : FAMA & Dept. Of Statistics, 1990

productivity has been more than able to compensate for the rapid growth in demand.

3.2 Growth of the Rubber-based Industries

The progress of rubber-based industries has so far been encouraging. This is due to the obvious advantage of being the leading producer of natural rubber as well as the effect of Government incentives.

In 1981 there were 240 establishments in the rubber products industry, comprising 17 tyre and tube makers, 26 latex product processors and 19 footwear makers. Others specialised in industrial and commercial goods such as hoses and belting. Employment was provided for nearly 31,000 workers. 69,000 tonnes of rubber were used and value-added of the industry amounted to 599 million ringgit.

In 1989 there were 305 establishments in the rubber products industry. Of these, 237 were in production with 140 being latex goods manufacturers, mostly making gloves (Table 6). Domestic utilisation in 1989 totalled 150,970 tonnes and value-added of the industry amounted to 1331 million ringgit. Total export of rubber products amounted to 1280 million ringgit. Employment was provided for nearly 53,000 workers.

TABLE 6: RUBBER PRODUCTS INDUSTRY

Product Sector	No. of Establishment (1989)	No. in Production (1989)	Rubber Consumption-Tonnes (1989)	Rubber Consumption-Tonnes (1990)
Tyres	5	3	29,049	32,400
Latex goods	205	140	78,814	99,200
General rubber goods	55	55	25,806	30,500
Industrial rubber goods	23	22	10,944	12,200
Footwear	17	17	6,357	6,700
Total	305	237	150,970	181,000

Source: Malaysian Rubber Research And Development Board, 1990 and Ministry Of Primary Industry, 1991.

The Malaysian rubber-based industries are expected to continue to grow in the future. With the coming into production of four new latex thread plants and one sizeable tyre factory, rubber usage by the industries are expected to reach 240,000 tonnes in 1992 which is near to the figure of 300,000 tonnes targeted under the Industrial Master Plan for the year 2000.

3.3 Growth of the Palm Oil-based Industries

With the growth in palm oil refining and processing after 1974, a shift in the export structure of palm oil has occurred (Table 7). Today, refined palm oil products acccunt for about 99 per cent pf total palm oil exports from the country. To promote further development of the industry, only oleochemicals and their derivatives, margarine, vanaspati, shortening and other manufactured fat products are designated as priority products which are eligible for tax incentives.

In 1989. there were five oleochemical plants with a total capacity of approximately 283,000 tonnes palm oil intake a year for the production of fatty acid, methyl esters and glycerine. Recently another 2 oleochemical plants came into operation with a total capacity of 106,200 tonnes of palm kernel oil intake per annum for the production of fatty alcohol. Under the Industrial Master Plan, the production target set for the oleochemical sector is 750,000 tonnes intake in 1995 to produce downstream products. Most of these oleochemical plants are undertaken with multinational interests. With the progressive development of the oleochemical industry, Malaysia is now recognised as a growing centre for the production and supply of oleochemical products.

TABLE 7: EXPORT OF PALM OIL AND PALM OIL PRODUCTS

Item	1980		1988		1989		1990	
	Volume ('000 Tonne)	Value ($ Million)	Volume ('000 Tonne)	Value ($ Million)	Volume ('000 Tonne)	Value ($ Million)	Volume ('000 Tonne)	Value ($ Million)
Crude Palm Oil	198	236	118	65	171	125	27	27
Palm Oil	1443	1790	3496	2528	3335	2740	3498	3857
Palm Stearin	495	489	591	417	572	414	625	644
Palm Acid Oil	122	88	30	10	23	13	16	12
Palm Fatty Acid	12	7	223	80	160	102	181	146
Total Processed Palm Oil	*2073*	*2374*	*4441*	*3035*	*4090*	*3269*	*4320*	*4659*
Palm Kernel Oil	219	303	516	634	634	755	631	523
Palm Kernel Cake	260	69	735	203	963	256	1052	251
Total Export	2750	2982	5809	3937	5858	4405	6030	5460

Source: Department of Statistics and Palm Oil Registration and Licensing Authority,1991.

3.4 Growth of the Wood-Based Industries

The wood-based industries are poised for rapid rates of growth due to the tremendous respond from the private sector to invest in the industry (Table 8). The private sector proposed capital investment in approved wood, wood products, furniture and fixtures projects for the period 1985 to 1990 amounted to 4681 million ringgit, the highest among the agro-based industries.

The forestry and timber sector provides employment opportunities to about 177,000 people in 1989. Employment is made up of 72,000 in logging, 51,000 in sawmilling, 23,000 in plywood/veener and 31,000 in moulding and other timber

processing mills.

TABLE 8 : PRIVATE SECTOR PROPOSED CAPITAL INVESTMENT IN AGRO-BASED INDUSTRIES (1985 -1990)

Industry	Proposed Capital Investment ($ Million)						
	1985	1986	1987	1988	1989	1990	Total
Food Manufacturing	579	1263	589	969	496	571	4467
Beverages & Tobacco	29	11	5	26	9	39	119
Leather & Leather Products	1	-	-	-	21	33	55
Wood & Wood Products	117	47	272	448	1567	1738	4189
Furniture & Fixtures	23	7	2	94	177	189	492
Rubber Products	96	160	339	1533	557	139	2824

Source : Malaysian Industrial Development Authority, 1991.

The phased extension of the current ban on the export of sawlogs from Peninsular Malaysia to cover the states of Sabah and Sarawak will ensure the availability of the necessary raw material (i.e. some 27 million cu. meter of logs) for further downstream processing into sawntimber and other higher value-added products, especially in Sabah and Sarawak. To promote further development of the rattan and wood-based industries in Sabah and Sarawak, the government is providing additional incentives for the manufacture of rattan and wood-based products (excluding sawn timber and veneer) in Sabah and Sarawak. The additional tax incentives are:-

- Incentives under PIA are extended to manufacturers who produce for the domestic market;
- Full exemption of import duty is given for raw materials/components used in the manufacture of all rattan and wooden-based products for the domestic market;
- Double deductions on freight charges for

manufacturers who export rattan and wood-based products.

The exports of wood and wood-based products have increased rapidly during the 1980 to 1990 period (Table 9), reflective of the success of the government effort to promote private sector investments in the industry and exports of the products. The current thrust is on the conversion of rubberwood and other suitable timber species towards furniture manufacture, where Malaysia now has the comparative advantage.

TABLE 9: EXPORTS OF MAJOR TIMBER PRODUCTS AND FURNITURE ('000 cu.metre) ($ million)

Year	Sawlogs		Sawntinber		Plywood		Veneer		Moulding	Wooden & Rattan Furniture
	Vol.	Value	Vol.	Value	Vol.	Value	Vol.	Value	Value	Value
1980	15,086	2,611	3,135	1,211	439	281	120	38	212	32
1988	20,571	4,011	4,102	1,878	818	662	210	118	410	93
1989	21,110	4,357	5,135	2,944	915	719	248	146	519	171
1990	20,316	4,034	5,283	3,070	1,017	862	332	202	487	269

Source: Ministry of Primary Industries, 1991.

4. ISSUES AND PROBLEM

4.1 PIONEER STATUS AND ITA INCENTIVES FOR THE AGRICULTURAL SECTOR

The Pioneer Status and ITA incentives provided under the PIA 1986 are meant for new investors. The law states that any company being desirous of producing a promoted product may make an application for the incentive. Therefore existing agricultural producers producing promoted products are not eligible for the incentive unless the producers want to diversity into new promoted products. For example if Farmer A is producing papaya, he is not eligible to apply for the incentive for papaya cultivation. However he is eligible to

apply for the incentive for sheep farming or other promoted activities if he is desirous of venturing into sheep farming or other promoted activities. Therefore producers who want to expand their existing promoted activities are not eligible for the incentive.

Other limitations of Pioneer Status and ITA incentive for agricultural producers are:

(i) Agricultural projects can be multi-phases, multi-crops with different gestation periods. It is often difficult to define 'desirous' in such situation.

(ii) When two activities, one promoted and the other non-promoted, are carried out on the same piece of land at the same time, it is often difficult and complicated to prepare separate accounts for each activity. In such situation, the possibilities exist for tax evasion if tax incentive is given to the promoted activity which is intercropped with a non-promoted activity. So far no tax incentive has been given to promoted activity which is intercropped with a non- promoted activity.

(iii) Incomes in agriculture are often highly variable due to the biological risk of production and the marketing risk. Therefore the requirements that capital allowances and business losses have to be utilised during the pioneer period have made the Pioneer status incentive less attractive to agricultural producer.

(iv) It is difficult to state the 'Production Day' for agricultural projects because project yields are highly variable. At present 'Production Day' is defined as 'date of first sale' or 'date when

production reaches 50% of stabilised yield'. The 'date of first sale' is very easy to determine but if producers choose this date then the tax benefits may be substantially reduced.

4.2 INTEGRATED AGRICULTURAL PROJECTS UNDER THE PIA 1986

In line with the strategies recommended in the Industrial Master Plan, 15 integrated agricultural activities are promoted under the PIA 1986. "Integrated agricultural activity" as defined under the PIA 1986 is 'an activity which comprises the production of agricultural produce and the manufacturing of such produce and includes any activity which is related and incidental to such activity'. According to this definition, an agricultural project can only be considered as an 'integrated agricultural project' if the project sources 100% of raw materials internally. (That is the manufacturing activity must obtain all the agricultural produce internally). Since agricultural production yields are highly variable, this is a very difficult condition to comply with. Furthermore such definition and condition will not promote 'contract farming' in Malaysia.

4.3 COMPANIES WHICH ARE NOT ELIGIBLE FOR EXPORT ALLOWANCE

The export allowance is available to:

(a) resident agricultural cum exporting companies which are solely engaged in the production and export of agricultural produce; and

(b) resident trading cum exporting companies whose primary activity is the trade in and exporting of agricultural produce or manufactured products which are purchased from farm producers or manufacturers in Malaysia.

The above conditions exclude companies whose primary activity is the simple processing (that is cleaning, sorting, dressing, grading, packing, chilling/ freezing, storing) and exporting of agricultural produce from enjoying the incentive. For example, frozen seafood companies are not eligible for this incentive even though the exported products are eligible for the incentive.

5. RECOMMENDATIONS AND CONCLUSION

The aggregate impacts on agriculture of the ERP and investment incentives are difficult to ascertain. Agricultural producers respond to many factors in their investment and production decisions and their responses often involve significant time lags. Substantial future research will be required to assess the distributional impacts of ERP and investment incentives on the agricultural sector versus the rest of the economy.

While there is a lack of research works in Malaysia on the impacts of tax incentives, a brief survey of tax literature can provide some insights into the role of tax incentives in promoting investments in agriculture. In the United States, research findings confirm the critical role played by tax incentives such as Investment Tax Credit (ITC) and accelerated depreciation allowance in the rapid mechanisation of the farming sector that occurred in the 1960s and 1970s (4). The ITC provided the greatest stimulus to net investment in agricultural equipment from 1956 to 1978. The net investment in agricultural equipment had improved farm efficiency and encouraged substitution of capital for labour (4). Davenport, Boehlje and Martin (3) in their study on the effects of tax policy on American agriculture prior to 1981, concluded: "Generally, tax policy has led to upward pressure on farmland prices, larger farm sizes, incentives for farm incorporation, altered management practices, and increased use

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Appendix 1

LIST OF PROMOTED AGRICULTURAL/AGRO-BASED ACTIVITIES AND PROMOTED PRODUCTS

Industries	Products/Activities
1. Agricultural Production	(1) Cultivation of tea
	(2) Cultivation of fruits
	(3) Cultivation of vegetables, tubers or roots
	(4) Cultivation of rice and maize
	(5) Cultivation of herbs or spices
	(6) Cultivation of essential oil crops
	(7) Production of planting materials
	(8) Cultivation of crops for animal feed
	(9) Floriculture
	(10) Sericulture
	(11) Livestock farming, excluding rearing of chicken and pigs
	(12) Spawning, breeding or culturing of aquatic products
	(13) Off-shore fishing
II. Integrated Agriculture	(1) Cultivation and processing of tea

(2) Cultivation and processing of herbs and spices

(3) Cultivation and processing of crops for animal feed

III. Processing of Agricultural Produce

(1) Cocoa products

(2) Coconut products except copra and crude coconut oil

(3) Fruits

(4) Vegetables, tubers or roots

(5) Cereal products

(6) Starch products

(7) Essential oils

(8) Livestock and livestock products

(9) Aquatic products

(10) Agricultural wastes and by-products

(11) Aquaculture Feed

IV Forestry and Forestry Products

(1) Cultivation of timber, bamboo and rattan

(2) Rattan products

(3) Bamboo products

V Manufacture of Rubber Products.

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(1) Earth mover, agricultural, industrial, commercial vehicle, motorcycle, aircraft and solid tyres

(2) Retreading of aircraft tyres

(3) Moulded rubber products

(4) Latex dipped products

(5) Extruded rubber products

(6) General rubber goods

(7) Foam Rubber products

(8) Rubberised fabrics

(9) Inflatable rubber products

(10) Conveyor belts, transmission belts, V-type belts and other rubber belting

(11) Rubber-based (elastomeric) specialty coating

(12) Epoxidized natural rubber

(13) Thermoplastic natural rubber

VI Manufacture of Palm and Oil, Palm Kernel Oil and Coconut Oil Products and their Derivatives

(1) Oleochemicals and their derivatives

(2) Margarine, vanaspati, shortening and other manufactured fat products.

V Manufacture of Chemicals

(1) Chemical derivatives

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obtained from organic and inorganic sources

(2) Plant extracts for phamaceutical, perfumery, cosmetics and food industries.

(3) Basic manufacture of pharmaceutical

(4) Basic manufacture of pesticides

(5) High fructose syrup

VI Manufacture of Wood and Wood Products

(1) Plywood, fancy plywood, prefinished and printed plywood

(2) Building and insulating boards, all types

(3) Timber mouldings

(4) Builders' carpentry and joinery

(5) Wooden household articles

(6) Wooden furniture parts and components

VII Manufacture of Pulp Paper and Paperboard

(1) Pulp

(2) Newsprint

(3) Printing and writing paper

(4) Security paper

(5) Household and sanitary paper

(6) Linerboards

(7) Kraft liners

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(8) Fluting medium

(9) Sack krafts

XI Manufacture of Textile and Textile Products

(1) Natural and man-made fibre, excluding polyester stable fibre

(2) Continous filament yarn of natural and man-made fibres

(3) Yarns of discontinous, natural and man-made fibres

(4) Woven fabrics of yarns of discontinuous fibres

(5) Woven fabrics of continous filament yarns

(6) Dyed or printed knitted fabrics

(7) Cord fabrics

(8) Knitwears

VII Miscellaneous

(1) Furniture

(2) Toys

(3) Sports goods and equipment

(4) Leather and leather products

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Appendix 2

LIST OF AGRICULTURAL PRODUCE ELIGIBLE FOR THE 5% EXPORT ALLOWANCE

(1) Items	(2) Harmonized System Code (H.S)
(i) Live animals	01.01 to 01.05 and 0106.00 100
(ii) Meat and edible meat offals	02.01 to 02.10
(iii) Fish, crustaceans and molluscs	03.01 to 03.07
(iv) Milk and cream	04.01
(v) Bird's egg and egg yolk	0407.00; 04.08
(vi) Natural honey	0409.00 000
(vii) Edible products of animal origin	0410.00
(viii) Vegetables	06.01 to 06.04 07.01 to 07.14
(ix) Edible fruit and nuts	08.01 to 0804.10 000
(x) Coffee	09.01
(xi) Tea	09.02
(xii) Spices	09.04;09.06 to 09.10
(xiii) Ground-nuts	12.02
(xiv) Cocoa beans	1801.00 000

Appendix 3

DEDUCTION FOR CAPITAL EXPENDITURE ON APPROVED AGRICULTURAL PROJECTS

	Project	Time frame (year)	Minimum Hectarage
1.	Aquaculture (Prawn)	2	40
2.	Crops		
	- papaya	1	40
	- bananas	1	40
	- passion fruit	1	40
	- star fruit	2	8
	- guava	2	8
	- mangosteen	7	8
3.	Floriculture	2	8

(Plants, bulbs, tubers and roots with or without flowerbuds, of the kind specified in chapter 6 of the Customs Duties Order 1998, which are suitable for planting or ornamental use, excluding
a) mushroom sprawn;
b) budded or seedling rubber stumps; and
c) rubber budwood)

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Appendix 4
(BNM Guideline)

EXPORT CREDIT REFINANCING SCHEME (ECR)

Objective of the Export Credit Refinancing (ECR) Scheme and types of facilities available

The main objective of the ECR Credit facilities is to promote the export of manufactured goods and agricultural products that have significant value-added and utilise local indigenous resources, via the provision of ready access to credit facilities, prior to or upon shipment of these products. For the pre-shipment facility an additional objective is to promote greater domestic linkages in export oriented industries. Two types of facilities are available to exporters namely:

(i) the pre-shipment ECR facility; and

(ii) the post-shipment ECR facility

PRE-SHIPMENT ECR FACILITY

There are two alternative methods of obtaining financing by the final exporter under the pre-shipment ECR facility:

(a) Order based method

Under this method ECR financing is granted against evidence of an export order which may be a purchase order, sales contract, or a telex order. In the case of telex orders, these must be subsequently supported by either a sales contract or a purchase order from the overseas buyer. ECR financing may also be granted to indirect exporters (suppliers to exporters) against an ECR domestic letter of credit (ECR DLC) issued by exporters.

(b) Certificate of Performance (CP) Method

Under this method, a Certificates of Performance (CP) issued by Bank Negara at the recommendation of a commercial bank will be the basis for pre-shipment financing instead of an export order or such evidence

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required under the order-based method. This system is available only to final exporters who have exported at least $3 million of eligible goods in the preceeding twelve months and a one year track record.

For agricultural exports (livestock, fish, prawns, fruits, vegetables and flowers) the eligibility criteria for a CP is a minimum exports of $1 million and a one year track record.

A direct exporter may utilise either the order-based method or a Certificate of Performance method at any one time.

Availability and coverage

Availability of the pre-shipment loan shall be through the issuance of an ECR DLC at the request of:

(a) the exporter to the first stage indirect exporter.

(b) the first stage indirect exporter to his supplier, namely the second stage indirect exporter.

The pre-shipment ECR facility shall be disbursed through 4 types of loans, namely:

(a) Value added loan (VAL)

(b) Domestic input loan (DIL)

(c) Foreign input loan (FIL)

(d) Domestic output loan (DOL)

Products which meet the following criteria will be eligible for access to the pre-shipment ECR facility.

(a) products not included in the negative list

(b) products with a domestic value added of a least 20%

$$\text{Value Added} = \frac{Ot - It}{Ot} \times 100$$

Where, Ot = Ex-Factory price of product
It = Value of raw materials used in production

(c) products which use a minimum of 30% of local raw materials.

These criteria shall be implemented flexibly, taking into

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account special circumstances.

The above criteria do not apply to goods supplied by indirect exporters.

The 20% value added and 30% domestic resource content criteria for access to the ECR scheme do not also apply for primary products such as rubber products, vegetable oil products, cocoa products and agricultural food products.

Financing is not automatic. Companies wishing access to the facility will hve to apply to commercial banks, which will vet applications to ensure the criteria for eligibility are observed at all times. Applications will also be subject to normal vetting procedures and security requirements of commercial banks.

Period of financing

Maximum period of financing is up to four months.

Interest rate

Currently the interest rate is 6% per annum.

Amount of financing

Under the order-based method financing is up to 80% of the value of the export order or sales contract or ECR DLC.

Under the Certificate of Performance method financing is 70% of the value of eligible exports of the exporter for the preceding 12 months.

Minimum amount for financing is $10,000 and the consolidation of export orders of sales contract or ECR DLC to meet the minimum amount eligible for financing is not allowed.

POST-SHIPMENT ECR FACILITY

The post-shipment ECR facility is available to exporters who export eligible goods on credit or usance terms to enable them to compete more effectively in the overseas markets. Under the post-shipment ECR facility, exporters can obtain immediate funds at reasonable rate of interest from Bank Negara though the commercial banks upon presentation of relevant documents

after shipment of goods.

Coverage

The products which meet the following criteria will be eligible for access to the post-shipment ECR facility:

(a) products not included in the negative list

(b) products with a domestic value added of at least 20%

(c) products which use a minimum of 30% of local raw materials.

These criteria shall be implemented flexibly, taking into account special circumstances.

Where a product satisfied either criteria (b) or (c) above, commercial banks shall, on behalf of the exporter, forward the application form to BNM for special consideration for access to the ECR facility.

The 20% value added and 30% domestic resource content criteria do not apply for primary products such as rubber products, vegetable oil products, cocoa products and agricultural food products.

Period of Financing

The maximum period of financing is six (6) months or for the period of credit extended to the foreign buyer, whichever is shorter. Subject to a maximum period not exceeding six (6) months, the standard enroute periods may be included in the usance of substitution bills for post-shipment ECR (where the maturity of the credit period extended is determined with reference to the sighting of documents by the foreign buyer) to allow for the receipt of the export bill proceeds.

Interest rate

Currently the interest rate is 6%.

Amount of financing

The amount of ECR financing will be up to 100% of the value of the export bill, rounded downwards to the nearest thousand ringgit.

Minimum amount for financing is $10,000 and the consolidation of export orders to meet the minimum amount eligible for financing is not allowed.

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THE ROLE OF THE PRIVATE SECTOR IN THE DEVELOPMENT OF THE POULTRY (BROILER) INDUSTRY IN MALAYSIA IMPACT ANALYSIS AND POLICY ISSUES

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September 1992

THE ROLE OF THE PRIVATE SECTOR IN THE DEVELOPMENT OF THE POULTRY (BROILER) INDUSTRY IN MALAYSIA: IMPACT ANALYSIS AND POLICY ISSUES

1. INTRODUCTION

1.1 As a sub-set of the nation's food policy, the objectives of livestock production in Malaysia include ensuring availibility of meat, safeguarding consumer interests and also as a strategy to promote rural employment and improve farm income. This import-substituting strategy has seen the remarkable performance of the poultry industry vis-a-vis the struggling ruminant ones.

1.2 The poultry industry in Malaysia is one of the most outstanding national enterprises which has developed through close interaction between the private sector and the Government. Over a span of 30 years it has made spectacular progress and considerable expansion to emerge as a multi-million Ringgit enterprise. The industry has shown its ability to produce poultry meat and eggs at reasonable prices and in quantities that exceeds the domestic demand. As such, it did not only contribute to the country's economy but also to the well being and good health of the country's population.

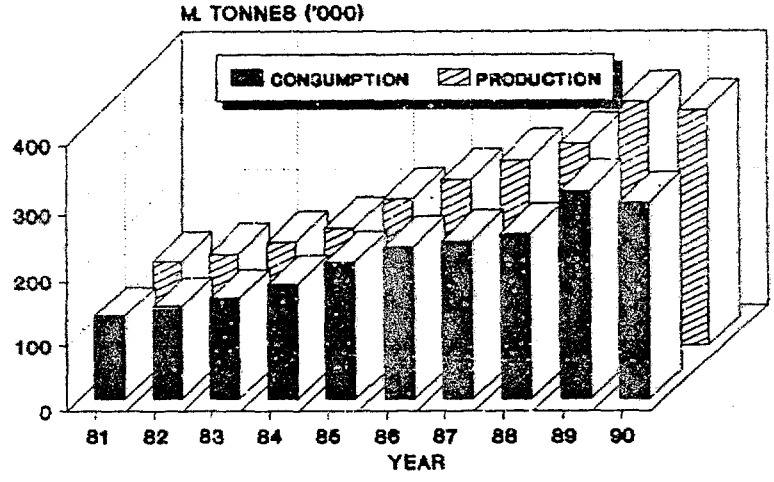
1.3 This paper attempts to analyse the impact of the role of private sector and the policy intervention of the government in the growth and development of the poultry (broiler) industry. Current issues surrounding domestic broiler production, marketing and processing are also highlighted.

2. BACKGROUND

2.1 The poultry industry in Malaysia has come a long way. Substantial investment by the private sectors coupled with pragmatic government policies have enabled the industry to grow continuously in the past years to overtake all other farm-based industries of the economy in terms of value. Today, it represents an investment of more than M$1.5 billion (US$0.6 billion), contributes about 60 per cent to the total meat production and provides gainful employment to some 67,000 people.

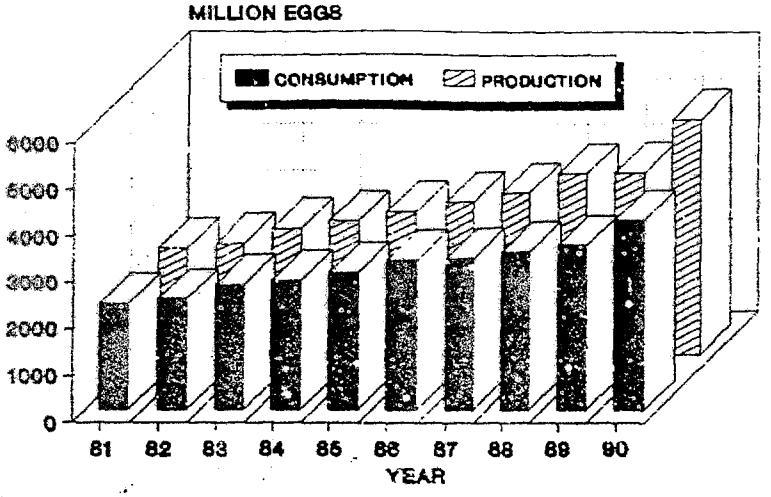
2.2 In 1990, production of chicken and duck meat from various internal sources amounted to some 348,500 metric tonnes (Figure 1) while egg is produced at the rate of 13.8 million per day or about 5 billion per year (Figure 2). The production of commercial broiler day-old chicks within the same period is estimated at 207 million birds (Figure 3).

FIG.1 POULTRY MEAT SUPPLY & DEMAND
Peninsular Malaysia 1981 - 1990



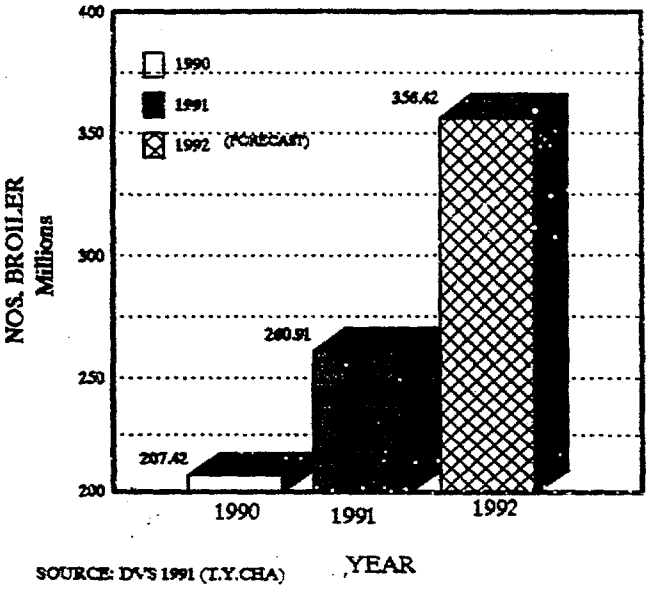
SOURCE: DVS HQ, KL 1991

FIG.2 POULTRY EGGS SUPPLY & DEMAND
Peninsular Malaysia 1981 - 1990



SOURCE: DVS HQ, KL 1991

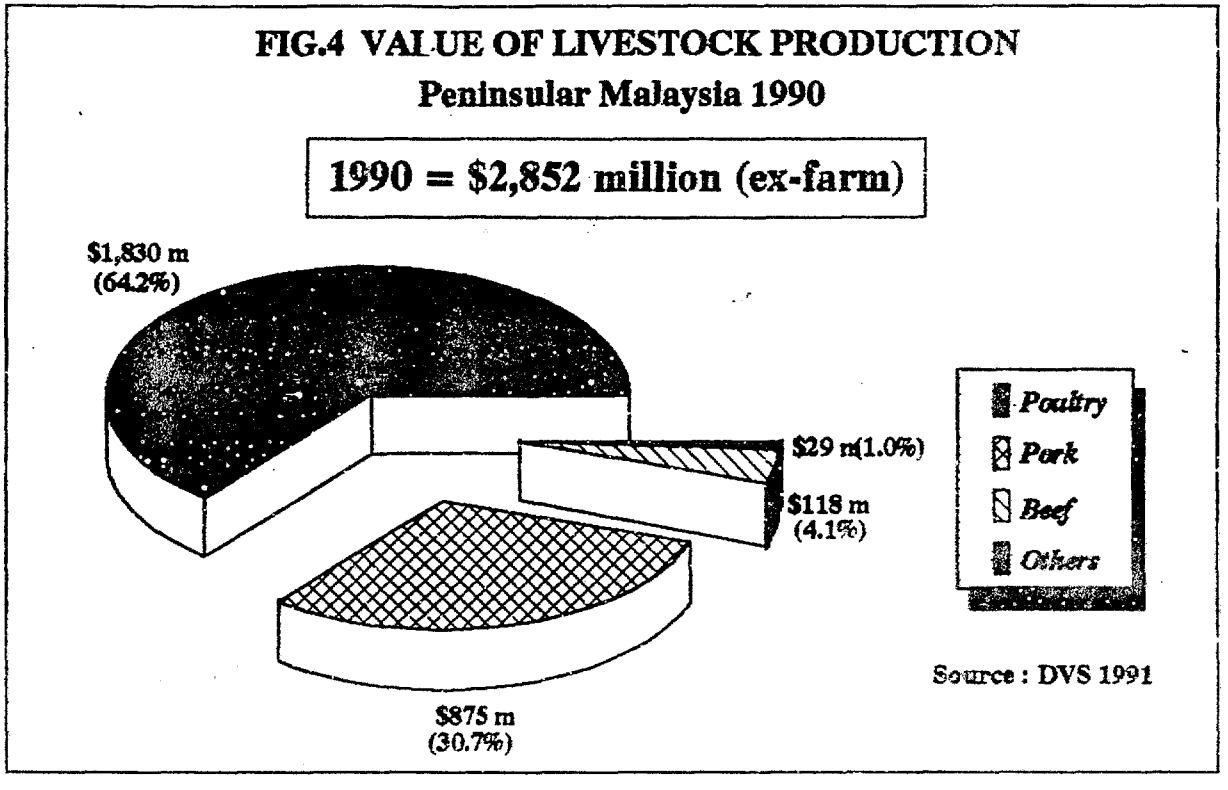
FIG 3. BROILER CHICKS PRODUCTION
Peninsular Malaysia 1990-1992



PERIOD	% PER ANNUAL GROWTH
1990 - 1991	25.79 %
1991 - 1992	36.60 %
1991 - 1992 (AVG)	35.92 %

SOURCE: DVS 1991 (T.Y.CHA)

2.3 The combined value of the above output is estimated at M$1,830 million (US$732 million) or 64 per cent of the total output value of livestock production (Figure 4). The poultry industry contributed 2.3% to the GDP and 28% to the total output value of farm food product in the country.



2.4 Peninsular Malaysia has been self-sufficient in poultry meats and eggs since the late 1960s and became a net exporter of these products in the early of 1980s. Currently, about 17 per cent of the meat and 23 per cent of the eggs produced in excess of local demand are exported (mainly to Singapore) and worth a foreign exchange of M$230.84 million (US$86 million).

3. BROILER CHICKEN INDUSTRY

3.1 The broiler chicken sector in Peninsular Malaysia has a monthly production capacity of 17 million birds. The potential annual production of over 180 million birds rendered the country self-sufficient in chicken meat. The main source of the output were from the commercial farm units which, according to the latest statistics, numbered around 4,900.

3.2 With regards to size, 93.5% of these farms had less than 10,000 birds, 5.2% had between 10,000 to 50,000 birds and 1.3% had more than 50,000 birds. Large-scaled operations (including a few integrators), though small in number, accounted for almost 55% of the total output and they are found mostly on the West-coast of Peninsular Malaysia.

3.3 Compared with other livestock meats, Chicken meat has several advantages and mutually reinforcing features. Besides being the cheapest meat available in the market, there are no social or religious taboos attached to the chicken meat. These factors explained why the meat accounted for over 60% of the total meat consumed in the country.

3.4 The traditional system of live bird marketing in the country is a chain involving farmer-middlemen-retailer-consumer (**Figure 5**). The middlemen earned a commission by catching, transporting and wholesaling the birds to retailers. There are about 55 of them, 6 of whom are the 'big-time' wholesalers who are often accused of collusion as they have a major overiding influence on ex-farm pricing over the whole of Peninsular Malaysia. The retailers, whose number around 650, earned a margin from selling live birds as well as dressed chickens to the end-users.

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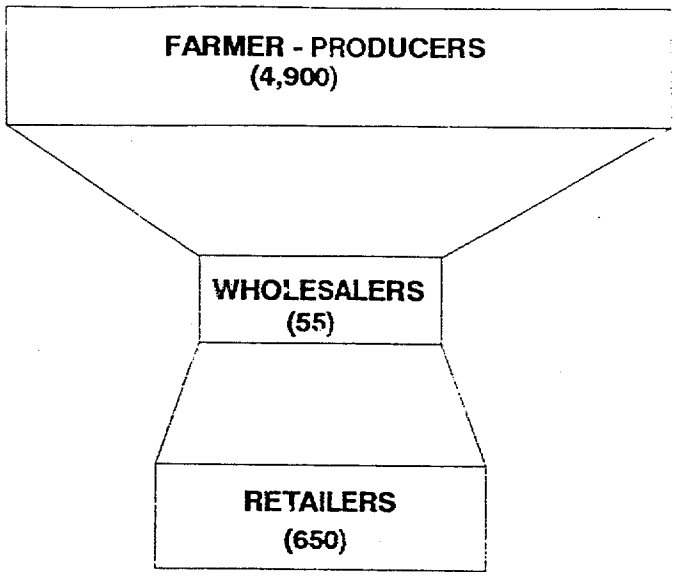
FIG. 5 TRADITIONAL BROILER MARKET STRUCTURE
Peninsular Malaysia 1990



3.5 As far as the share of the market is concerned, about 65% of the meat is consumed in the 'Hainan Chicken Rice' stalls, restaurants and fast-food chains. Only 30% is taken up by the households and the remaining 5% is eaten in hotels and other institutions. In all, Malaysians consume about 20 kilogrammes of chicken every year - making them the second largest consumer of the meat in the ASEAN region.

3.6 Lately, Malaysian broiler industry is moving into another stage of development - the vertical and horizontal integration. Producers are striving for operational efficiencies and exploiting economies of scale in order to minimize production costs. Hygienically processed poultry products are sold directly through owned outlets to consumers at more competitive prices. Adequate facilities for the down-stream processing of high quality products are being installed to meet the stringent requirements of importing countries.

4. POLICY AND PROGRAMME REVIEW

4.1 The broiler chicken sector is a very good example of how an industry can benefit from government protection without exploiting the consumer. Although importation of chicken meat is disallowed, the price of the meat has remained stable and competitive. In many other industries, as soon as government protection is introduced, the price of the goods produced increased and eventually the consumer is made to bear the cost.

4.2 With regards to the development of the broiler chicken industry in Malaysia, the functions and activities of the Government are geared towards providing technical services together with regulatory, supervisory, administrative and other appropriate measures to stimulate production, encourage downstream processing and facilitate marketing of the birds and its products.

4.3 The formulation of strategies and development programmes for the broiler chicken industry are guided by Government policies such as the New Economic Policy (NEP) and the National Agricultural Policy (NAP). The Animals Ordinance 1953 and other Acts or Regulations thus established, provide the necessary authority to the Department of Veterinary Services (DVS) with respect to animal disease eradication, improvement of health and production status as well as matters related to veterinary public health.

4.3 Essentially, what the Government would like to have is an industry where every participant receive a fair share for their efforts without excessive costs to the final consumer. Hence, the creation of an open market that practice healthy competition and prevent excessive exploitation by any sector. Some degree of protection is given to preclude dumping from external sources so as to create a sufficiently large market to induce further investment into the industry.

4.4 Among the many roles played by the Government, the followings are of immediate concern to the broiler chicken industry:

4.4.1 Creation of a Captive Domestic Market

This has been largely achieved through a series of import controls and duties, and backed up by aggressive anti-smuggling efforts. For example, a 5% surtax on import of live birds and a M$1.32/kg dressed weight on 'dead fowls'.

4.4.2 Promotion of Investments

In an attempt to attract more private sector participation in the field of food production and processing activities, the government has in recent years introduced a number of fiscal and monetary incentives.

The principle legislations that governed the granting of incentives for agricultural activities (where livestock farming and processing are listed as promoted activities) are the Promotion of Investments Act 1986 (PIA) and the Income Tax Act, 1967 (ITA). In the PIA, incentives such as Pioneer Status, Investment Tax Allowance, Agricultural Allowance and Export Credit Refinancing are available for companies engaging in exports of processed chicken, chicken parts and products.

4.4.3 Reduction in Production Cost

The Government has contributed in many ways to promote a competitive domestic broiler chicken industry. This

encompassed Basic as well as Applied Research activities aim at quantum reduction in cost of production through cheaper feeds, reduced mortality, new breeds and improved husbandry practices. The Malaysian Agricultural Research and Development Institute (MARDI) and Agriculture University of Malaysia are among those institutions actively involved in these activities.

4.4.4 Reduction in Marketing Cost

The Federal Agricultural Marketing Authority (FAMA) has introduced a new set-up of marketing institution called 'Pasar Tani' or 'Farmers' Market which provide opportunities to farmers to market their farm produce direct to the consumers. Under this set-up, the farmers receive fair and remunerative prices while the consumers are assured of supply of quality produces at reasonable prices.

4.4.5 Market Intelligence and Coordination

One of the means considered to prevent gluts in the market and reduce the incidence of wild price fluctuations is to coordinate demand and supply via mandatory regulations and imposition of production quotas. Although highly desirable, this role is not feasible at present due to several complications and the extremely high cost of effective enforcement. Furthermore, farmers are likely to lobby against outside inteferences.

However, close government-private sector ties has enabled the DVS to carry out annual comprehensive surveys on all chicken parent stock farms and hatcheries in the country. This periodical exercise has enabled the DVS to forecast the trends in day-old broiler chicken output as far as 18 months in advance. Such information is very much welcomed by the industry and has helped them in planning their production and marketing strategy.

4.4.6 Food Safety and Public Health Issues

In it's overall plan of quality assurance of animal products, the Government has introduced laws which requires the slaughter of poultry to be approved by the DVS and originate from registered slaughtered houses. The public is also being made aware of the benefits of hygienic and supervised slaughter of poultry. This measure also helps curb environmental pollution, solve sanitation problems, allows for proper system of grading, inspection and labelling.

4.4.7 Research on Poultry Diseases

Recognising the economic importance of the industry, the Government has, together with assistance from the Japan International Co-operation Agency (JICA), set-up a poultry disease research centre called the 'Asean Poultry Disease Research and Training Centre. The centre is set-up through grant and technical cooperation from JICA experts and volunteers.

4.5 The roles of the Government are not comprehensive but sufficient to reflect the importance that it attaches to the broiler industry. In such a free market economy, the Government can provide facilities and in certain instances even pave the way for changes but the bottom line is that the main thrust in solving the problems that besets the broiler industry has to come from within.

5. THE PRIVATE SECTOR IN BROILER INDUSTRY: ROLE AND IMPACT ASSESSMENT

5.1 In the context of Malaysian broiler chicken industry, the roles and assessment of the respective participants are discussed as follows:

a)	Farmers	-	Producers
b)	Wholesalers and Retailers	-	Traders
c)	Breeder Farms/ Hatcheries/ Feedmiliers/ Pharmaceutical Companies	-	Input Sectors
d)	Corporatised Farming Operators	-	integrators

5.2 The Producers

5.2.1 The most outstanding achievement of Malaysian broiler producers is that over the last thirty years, they have managed to reduce the cost of production. This has been made possible through rapid technological advances in terms of producing chicks requiring shorter time to reach marketable weight (i.e. from 70 days in the

1960s to 42 days in the 1990s) and increased feed conversion ratio or FCR (from 2.5 in the 1970s to 1.9 in 1990). In addition, the adoption of improved husbandary practices involving sanitation, and disease prevention have resulted in fewer farm failures.

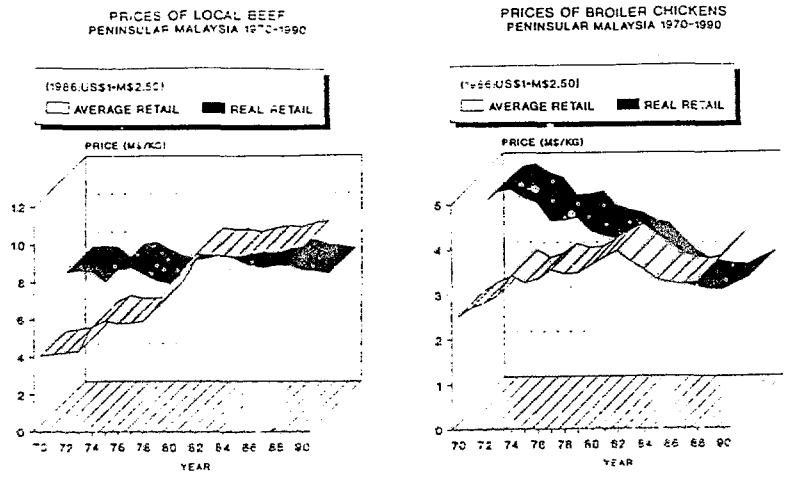
5.2.2 The structural growth of the broiler chicken industry in Malaysia has been characterised by a marked decline in the number of small-scale producers and a concomitant enlargement in the size of the survivors' farms to exploit economies of scale.

5.2.3 With farm units becoming increasingly larger and operational efficiencies improving through automation, the industry has managed to keep the price of chicken meat from rising with the escalating increase in cost of living. Today, it is the cheapest source of meat in the market and is accessible to all strata of Malaysian society. Figure 6 indicates that, while price of beef has increased over the last two decades, the real price of chicken meat has actually decreased.

5.2.4 With increasingly shorter production lag, the response time of producers towards increasing production is rapid and the impact is wide ranging in the event of a glut.

5.2.5 In an attempt to safeguard the interests and promote the welfare of local producers, a broiler committee has been formed under the Federation of Livestock Farmer Associations of Malaysia (FLFAM), the main function of which is to liase with the Government and statutory research, commercial and other organisations within and outside the country.

FIG. 6 RETAIL AND REAL PRICES OF MEATS
Peninsular Malaysia 1970-1990



Source: DVS 1991

5.3 The Traders

5.3.1 Unlike the egg industry, the poultry meat industry continues to depend on intermediaries to market the bulk of its produce. This is illustrated in Figure 7 which shows the bridging role of collectors and wholesalers in the traditional broiler marketing chain.

5.3.2 The middlemen are among the first to establish the poultry business in this country and they have contributed to the success of the industry often by financing farmers in the early days. However, as founder members, the middlemen formed the inherent strength in the wholesaling system and weild tremendous clout in price fixing. Out of the 250 wholesalers and middlemen in the Peninsular, only three per cent have a say in the price. This small group dictates the price of broilers for the whole country.

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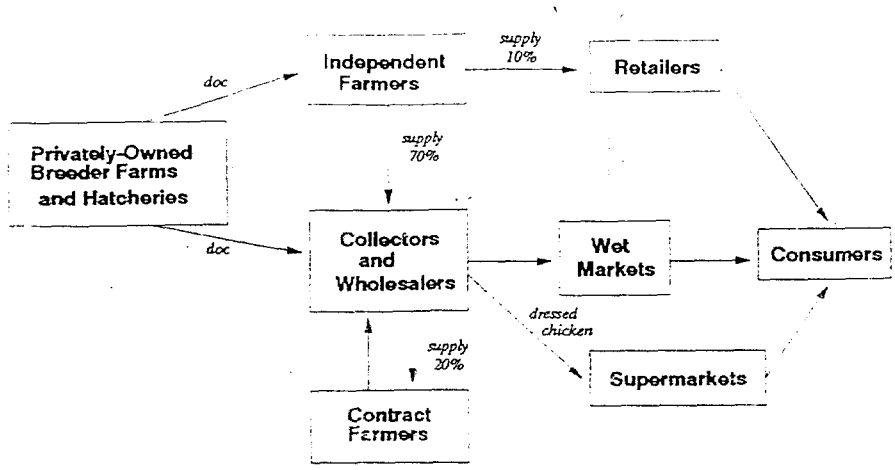
FIG. 7 BRIDGING ROLE OF TRADERS IN BROILER MARKETING
Peninsular Malaysia 1990



5.3.3 In an effort to please all parties, a joint broiler pricing committee has been initiated by the producers and traders. This committee is chaired by the Director General of the DVS and comprised of representatives from the FLFAM, integrators and the Poultry Wholesalers Association. The main fuction of this committee is to fix the ex-farm price of poultry ~~poultry~~ on a weekly basis to prevent unfair under-cutting of prices.

5.4 The Breeder Farms

5.4.1 Breeder farms in this case refer to broiler parent stock farms that produce commercial day-old chicks which are supplied to farms for up-keep and subsequent sale.

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5.4.2 In 1990, there were about 100 commercial breeder farms and hatcheries in Peninsular Malaysia producing some 200 million broiler chicks per year. Since importation of commercial broiler chicks and hatching eggs are somewhat restricted in this country, the output of the breeder farms determines the size of the broiler and the animal feed industries.

5.4.3 Many of the large breeder farms, however, do not just play the passive role of producing and selling of day-old chicks. They even provide technical and veterinary services to their customers. Broiler management know-how is imparted to the broiler grow-outs through visits by their veterinarians and technical personnel.

5.4.4 In 1986, after 10 months of broiler ex-farm prices dipping below the cost of production, the breeder farms instituted a nation-wide 'supply management' exercise by removing some 3 million broiler chicks from the market. As a result, the ex-farm prices of broilers went-up and this brought relief to the broiler farming community.

5.5 The Feedmillers

5.5.1 In 1990, there were 38 commercial feedmills operating in the country producing some 2.6 million tonnes of feeds worth about M$1,500 million. The feeds produced are mainly for the poultry and swine industries. In the case of broiler industry, feed cost constitute between 75 to 80 per cent of the total cost of production.

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5.5.2 The feedmillers support the growth of the broiler industry in Malaysia by extending large amount of credit to farmers. The traditional modus operandi of the business is that the feedmiller supplies the broiler feed on credit. For some feedmillers which have their own breeding farms, the credit extended includes a package deal involving supply of day-old chicks, feed, veterinary products and services. Payments are settled when farmers sell their birds. Thus, the feedmillers act more or less like bankers for the farmers.

5.5.3 The above arrangement works out fine if prices are attractive. However, when prices fall because of a glut, the farmers' failure to make prompt payment causes debts to pile up. The massive debts impose a severe strain on the feedmillers' resources. As a consequence of bearing these massive bad debts, many feedmillers themselves venture into downstream activities. Many start their own breeding farms, hatcheries and broiler grow-out operations.

5.6 The Integrators

5.6.1 The move towards integration in Malaysian broiler industry is inevitable as it is the result of the practices of the present marketing agencies which are exploiting farmers in a variety of ways. One of the main benefits of an integrated broiler operations is reducing the overwhelming control of the middlemen in the traditional marketing system.

5.6.2 The application of broiler integration in Peninsular Malaysia is spearheaded by the entry of corporate companies such as those in the feedmilling business, breeding and hatchery establishments, fast-food and food processing enterprises. They either set-up new breeding farms and poultry processing plants or acquire existing ones. These companies possess both the management and financial resources to bring about improvement and accelerate expansion of the industry.

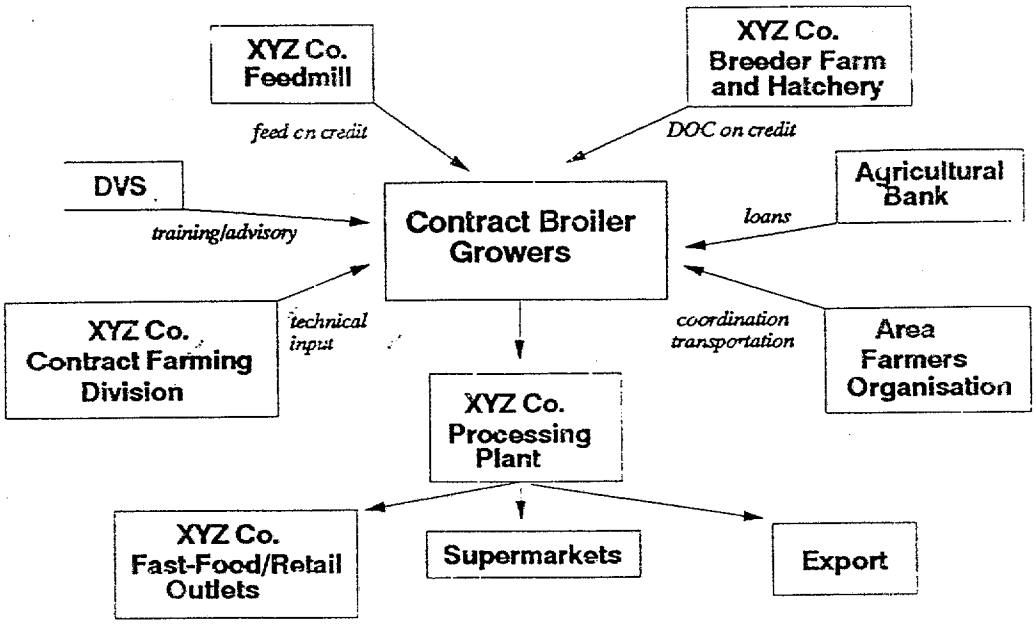
5.6.3 Currently, there are five companies in Malaysia which have started poultry integration, mostly in the downstream activities. However, only three so far have gone into a full integration. in a fully integrated broiler operation, feedmilling, breeding, production, processing, distribution and retailing of the end products are under unified management control. The objective is to create the greatest efficiencies possible by coordinating the economic activities involving production and marketing.

5.6.4 The rationale behind the corporate decision to go for a full integration is clear, to the feedmillers - it ensures the recovery of credits extended to the industry, and to the fast-food chains - it guarantees supplies of uniform live birds to their processing plants and quality products to their restaurant outlets as well as export markets.

5.6.5 At production level, contract farming is the most prevalent form of integration. Figure 8 illustrates the modus operandi of this scheme whereby farmers are supplied by the integrator with chicks, feeds and a host of other necessary inputs on credits. In return, the contract growers have to

sell their birds to the integrator at guarenteed prices allowing them a reasonable profit. Here, most management decisions are traded for an element of security.

FIG.8 BROILER CONTRACT FARMING SCHEME
Peninsular Malaysia 1990



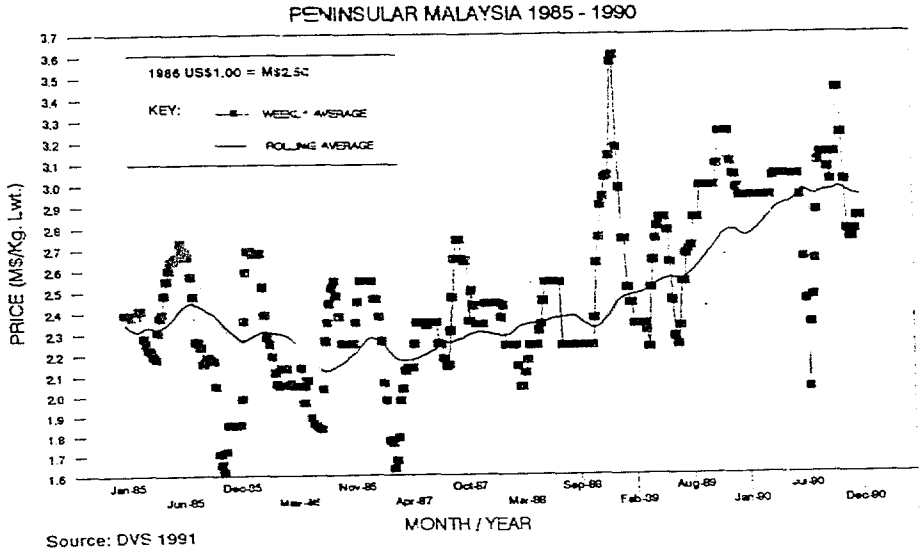
5.6.6 In an integrated operation, marketing is in the hands of the integrator while farmers are assured of a reasonable return and not subjected to the vagaries of price fluctuations. Poultry products are sold by the integrated producers or processors directly to retailers and finally to consumers at more competitive prices.

6. ISSUES AND PROBLEMS

6.1 Lack of Cooperation

6.1.1 The system of free enterprise in the broiler industry is not without faults. Competition and self-interest among the large number of poultry producers is so intense that they are not willing to cooperate when it comes to planning production and marketing on an industry basis. This competition manifests itself year after year in the production and price statistics where the industry goes through periodical busts and booms. Figure 9 depicts the cyclical nature of ex-farm price of broiler in the country. The most recent glut in the market is so severe that the industry is forecasted to lose more than M$100 million.

FIG. 9 EX-FARM PRICE OF BROILERS
PENINSULAR MALAYSIA 1985 - 1990



Source: DVS 1991

6.1.2 The Government has tried to regulate and stabilise the industry through the proposed Poultry Development Board. The proposal was shelved because the private sectors lobbied strongly against outside interference. Since self-regulation is not possible because of individualistic priorities and government control is not welcomed, broiler producers will continue to 'kill' each other and only the fittest will survive.

6.2 Government Assistance

6.2.1 The private sector has always blamed the Government for not doing enough to help the poultry industriy to grow and compete effectively in the export market. However, the Government is against any form of direct subsidy because past experiences have shown that such aids would not be conducive to productivity in the long run.

6.2 Corporate Integration

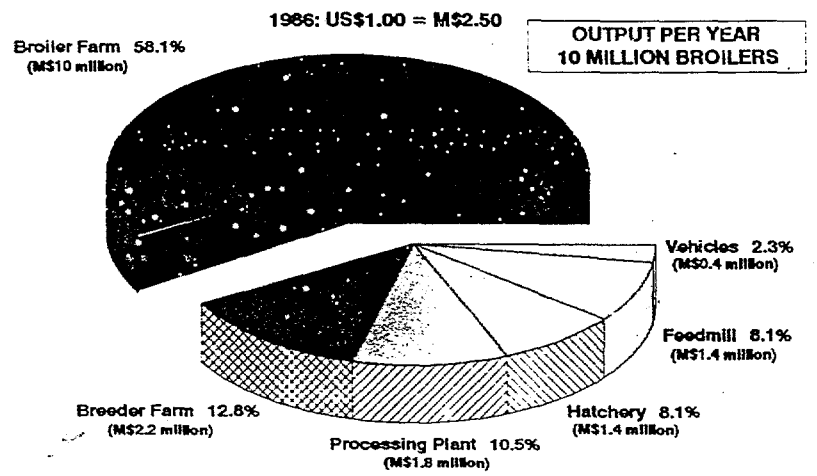
6.2.1 The entry of 'big boys' in broiler production has met with considerable resistance. Small and medium-sized producers are apprehensive of takeovers and afraid of being squeezed out of business. Competition represented by 'outside' capital is regarded as a threat to their livelihood.

6.2.2 Corporate integration increased its share of broiler production from a mere 11% in 1986 to almost 55% in 1990. This rapid development have been aided by the image of broiler contract farming as an attractive enterprise during the period of world-wide

1986-87 recession because most agricultural activities yielded bare or negative returns. But, as the economy revives, some farmers question whether contract farming is a sound investment. They consider these arrangements as the means for the corporate integrators to exploit their resources and skills preparatory to committing substantial resources needed to invest directly in farm production.

6.2.3 Figure 10 shows the distribution of fixed assets in an integrated broiler operation with company-owned farms. As broiler grow-out operations comprise about 58% of the total cost of capital investment, the contract growing arrangement becomes necessary to reduce the heavy financial commitments of the integrator.

FIG.10 DISTRIBUTION OF FIXED ASSETS
IN AN INTEGRATED BROILER OPERATION



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6.3 Consumer Tastes and Preferences

6.3.1 Consumer tastes and preferences are major factors influencing consumption habbits. Other factors include knowledge of hygiene, quality, nutritional values, effect on health and fitness, products and prices.

6.3.2 Despite the proliferation of supermarket chain stores throughout the country, the traditional practice of buying live chickens and getting the birds slaughtered and dressed in the wet market is still very much prevalent. Such traditional method of handling of products does not contribute to improving consumer demand.

6.4 Reliance on Imported Feed Ingredients

6.4.1 Consistent with the rapid development of the broiler industry, the importation of raw feed ingredients such as maize and soyabean has increased tremendously over the last thirty years. Over 75% of the total amount of feed grains imported is used in poultry feed production.

6.4.2 In view of the rapid development and expansion of the poultry, swine and aquaculture industries in ASEAN countries, it is likely that cheap grains may not be forthcoming. Industry sources indicate that at the present rate of growth of the economy, this region may not have surplus maize for export from year 1995 onwards. In such an event, Malaysia would have to source for the more expensive maize from other distant countries.

6.4.3 The dominance of maize as a source of energy in poultry rations means that it will become an increasingly important factor in influencing poultry product prices in this country. Hence, the industry's competitiveness and the prices the consumer will have to pay for poultry products in the future will be influenced by the movements of price of maize in the international feed grains market.

6.5 Export Markets

6.5.1 Presently, exports are mostly directed at the Singapore market because of close proximity. High production costs precludes export to other countries at the moment.

6.5.2 The Singapore market is a free market. It's door is always open to any country which could compete and offer similar products at relatively cheaper prices. Malaysia will continue to compete for a greater share of the expanding Singapore market.

6.6 Resource Allocation and Competition

6.6.1 As Malaysia pushes ahead towards industrialisation, more and more resources are being allocated to the manufacturing and services sector. Prices of factor inputs such as land, labour, capital, management and entrepreneurial leadership will be determined by the demand of these fast growing sectors. The broiler chicken industry, therefore, will find itself increasingly difficult to compete for the country's limited resources.

6.7 Environmental Issues

6.7.1 Intensification of broiler chicken production has created environmental (air and water) pollutions and flies problems in the surrounding areas. Likewise, indiscriminate discharge of wastewaters from broiler processing plants into waterways has caused serious problems. Farmers and processors are reluctant to incorporate waste management into their existing operations because pollution control measures do not pay for itself and it will certainly add to the cost of production.

6.8 Smuggling of Birds

6.8.1 Smuggling of birds into and out of the country continues to be a problem, especially when there is glut or when prices in the domestic market is attractive.

7. RECOMMENDATIONS

7.1 As a "survival strategy" in the 1990s, the broiler chicken industry must move towards a higher level of corporatisation. Fully integrated production system will enable the industry to expand at a much faster rate and maintain it's competitive edge while at the same time meet the objectives of both the corporate integrators and farmers. The exclusion of the middlemen from the system, however, is the consequence rather than the objective of integration efforts in the broiler industry.

7.2 At the farm level, the quest for higher production efficiency must be continued. For example, the feed conversion rate (FCR) can be further improved via direct selection in breeding, mortality rate be reduced by invention of new and more effective poultry vaccines using heat resistant viruses and the overall farm management made simpler through better housing, automation and modern equipments.

7.3 Since the rate of increment in domestic consumption of chicken meat is expected to slow down (as it is already approaching near saturation point), wide exploitation of new products must be undertaken in order to boost and promote further the consumption of this meat in the country. For the broiler industry to flourish in downstream activities, technology development must go hand in hand with the product development. A strong market research unit should also be established to analyse and understand the market demand. This is because the changing life style in developing countries such as Malaysia has greatly affected the type of food that people eat and the way it is prepared.

7.4 The growing number of fast-food outlets and restaurants in this country has created a wider market outlet for poultry producers and encouraged more downstream activities for product diversification. However, the private sector cannot rely on the Government alone to carry out the appropriate research in the product development and marketing. They should work together hand in hand and in some cases provide funds to initiate the higher institutions to carry out research in these areas.

7.5 Another aspect of marketing that needs to be given equal emphasis is the social and behavioural changes of the public. Consumer organisations tend to become more concern and critical nowadays about the food they eat. As the consuming public is getting more health and quality concious, it is imperative that producers and processors do pay heed to such publicity and undertake preventive measures to

minimise possible salmonella contamination. The levels of inclusion of 'growth promoters' in broiler feeds must also be checked and monitored frequently so as not to endanger the health of potential consumers.

7.6 In anticipation of increased broiler chicken production, appreciate surplus of the meat would also bring a serious problem unless export market is available. Hence, probe for greater export opportunities to countries like Japan, Hong Kong and the Middle-east must be expedited. The resources for such undertakings are unlimited and this include the possibility of Asean joint venture in export promotion of poultry products.

7.7 The quest for cheap raw feed ingredients will continue to be the greatest challenge to the broiler industry in the 1990s. Since commercial production of maize in Malaysia has not been proven to be a viable business venture and utilisation of locally available feedstuffs are somewhat restricted, the industry will have to continue to rely on imported feed grains. However, dependent on a particular source of supply will be a liability to the industry. Hence, the industry must develop the ability and capability to source from any place in the world for similar products at comparable price and quality. Equally, the Government policy to encourage private sector's involvement and investment in maize production in the country is a move in the right direction towards securing continous supply of feed ingredients for the livestock industry.

7.8 Having recognise the environmental problems caused by large scale operations of broiler chicken production and processing in this country, the Government must require that the industry incorporate waste management practices in their operations. Farms and processing plants must be required to construct and operate waste treatment facilities to treat wastewaters to meet the specified effluent quality standards before discharging them into public waterways.

8. CONCLUSIONS

8.1 An increasing efficiency of the Malaysian broiler chicken industry in consistently supplying the nation's animal protein at modest prices coupled with increasing per capita consumption are indices of a successful industry. However, recent and potential developments for enhanced farm productivity, disease eradication and the need for consistent product quality and customer assurance of good production practice are the order of the day as the industry forge into the 1990's.

8.2 Prospects and opportunities for investments in the Malaysian poultry business are very encouraging and promising but the changing economic scenario and liberalization of trade in the 1990's will present even greater challenges and pressure the industry towards efficient response and fore-planning.

Thank you.

Regional Workshop on
the Role of Private Sector in Agriculture Development and in the Poultry Industry: Impact Analysis and Policy Issues

22 - 25 September 1992
ASEAN ADPC, Bangkok, Thailand

PHILIPPINES

THE ROLE OF THE PRIVATE SECTOR IN AGRICULTURE

Impact Analysis and Policy Issues

Prepared by:

AUDIE C. UGALINO

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EXECUTIVE SUMMARY

1. Agriculture has assumed an important role in the Philippine economy it being the principal activity of almost 70% of the Filipinos. . Agriculture today is responsible for 45.2% of employment in the Philippines with over 10 million people employed in agricultural activities. The Gross Value Added (GVA) in agricultural crops has reached 56.24% in 1990, comparatively higher than that of livestock, poultry and fishery. The link between expansion and agricultural growth in the Philippines is weak compared to other countries in Asia because of the very minimal government incentives in terms of support services which made rural enterprises unattractive to private investors. Despite government's effort to eliminate biases against agriculture, the agricultural sector remained starved of private capital investments. Considering that the attractiveness of agriculture depends largely on the amount of economic incentives(in terms of economic policies and public spending) provided by the government, it is therefore essential for government to correct policy impediments.

2. The Department of Agriculture presently focuses its attention on the following commodities which are considered as forerunners because of their export receipts : rice, corn, coconut, sugar, livestock & poultry, fisheries and aquaculture, tobacco, fiber, fruits & vegetables, ornamentals. The Department of Agriculture will maintain its support of the aforementioned commodities

provided that the country has comparative advantages in producing them. Such support from DA will have the effect of augmenting income of Filipinos and will enable the country to attain self-sufficiency in basic food requirements.

3. The latest data from the Securities and Exchange Commision shows that agriculture's share from the total private investments was only 12.58% compared to that of non-agricultural sector which is 87.42%.

4. On the area of policies and program review, the following were those which affected the private sector's involvemnent in Agribusiness: Fertilizer Subsidies, Price Policies, Trade Policies, Taxation Policies, Land Reform Policy and the Agricultural Credit Policy. There were other policies however which were looked at as biased against agriculture. Among these are the Trade Policies, Taxation Policy, Macroeconomic and Exchange rate Policies, Transport Policies, Government Expenditures and National Pricing. These biases have hampered the total development of agricultural growth.

5. To cure such biases, the following are recommended: 1) lowering of tarrif rates on industrial products; 2)additional agricultural activities and support services in the Investment Priority Plan of BOI; 3) base VAT for processed agricultural products on value added instead of its total value; 4) reduction

of government expenditures on programs and projects which do not benefit majority of the population and programming of peso devaluation; 5)eliminate monopoly in transportation business; 6) increase government expenditure for agriculture and rural sector; 7)increase government fees for the use of natural resources and imposition of penalties for environmental pollution;

6. The role of the private sector today is merely complementary. While it is the government that sets policies conducive for its continued participation in agricultural development, still the ideal situation is that where there is less intervention by the government. In sum, the private sector is likely to succeed more in agribusiness if the government merely acts as fascilitator and provides incentives to motivate the former to engage actively in agricultural activities.

I. INTRODUCTION.

The Philippine economy in the nineties has continued to be primarily dependent on agriculture. It assumed an important role in both low income and semi-industrialized countries, being the main economic activity for a large portion(almost 70%) of the Philippine populace.

Agriculture, as of 1976 contributed 28.02% to the Gross National Product (GNP) but roughly decreased in 1990 with only 23.28% However, the Services sector contributed the highest of 34.42 and 43.79% in 1976 and 1990 respectively (Table 1).

Agriculture, including fisheries and forestry accounts for 1/4 of the Gross Domestic Product (GDP) and generates more than 60% of the total foreign exchange earning from raw and processed agricultural exports. It was also noted that the Gross Value Added (GVA) in agricultural crops was at a high of 56.24% in 1990 compared to the 8.4% of Livestock, 10.5% for Poultry and 19.5% for Fishery. To the present, two-thirds of the rural population's livelihood is primarily dependent on agriculture, fisheries and forestry and the former being responsible for one-third of all the goods and services produced by the economy in the Philippines (Table 2).

As of 1990, agriculture still accounted for 45.2% of employment in the Philippines (Table 3) , with over 10 million people employed in agricultural activities and earns 36% of the country's total export income. If the productivity of such a large

segment of the working population stagnates, that in itself acts as a drag on growth. Although agriculture only accounted for one quarter of GDP in value added terms, such activity in the service and small scale manufacturing sector is in turn dependent on the performance of agriculture.

Most Filipino farmers are small cultivators. Between 1971 and 1980, the average size of farms decreased from 3.6 to 2.8 hectares. About 97% of all farms occupy nearly half of the parcels below five hectares (1980 Census of Agriculture Nat'l Statistics). However, most Filipino farmers do not own the land they cultivate - 55% are owner-operators, 34% are tenants, 6% are leaseholders, and 4% hold certificate of land transfer (Summary of 1989 Phil. Agricultural Extension Study). But notwithstanding the large output of farmers to the economy, majority of them remained poor due to their production of less valued raw crops. However, under the Comprehensive Agrarian Reform Program, farmer-tenants in due time will become owner-managers of their own land and will eventually make decision of their own.

The link between expansion and agricultural growth in the Philippines is weak compared to other countries in Asia because the very minimal government incentives in the form of support services and infrastructures made rural enterprises unattractive to private investors. Inspite of the new government's effort to remove biases against agriculture, the agricultural sector remained starved of private capital investments. This lack of

investments has prevented the sector from providing enough jobs for the rural population and from increasing the number of working hours for the underemployed. It has been observed that the past economic policies did not promote the country's comparative advantage in agriculture but instead favored the other sectors of the economy like the mining industry. As a result, less investments went to agricultural activities in the rural areas while more investments flowed prematurely into import- dependent enterprises which needed more capital and clustered in urban centers. Such had the effect of curtailing greater agricultural prospects which should not be the case considering the contribution of the agriculture sector to the growth of the other sectors.

Since 1985, the Philippines has been experiencing worse economic and financial crisis. Drought in the Philippines brought about significant decreases in corn and coconut production. The devastating effects of strong typhoons and the eruption of Mt. Pinatubo likewise affected production in other major crops. Whatever bright development in agriculture could have been attained continued to be hampered by these damaging calamities.

The attractiveness of agriculture to private investors depends largely on the amount of economic incentives the government provides thru economic policies and public spending. That private investors continue to shy away from agriculture indicates clearly that economic policies and government spending still remain biased against the sector.

It is therefore imperative that the government correct this policy impediments in order to improve the economic well-being of the majority of our population who belong to the agriculture sector.

II. SIGNIFICANCE OF THE STUDY

One of the strategies that has been adopted by many countries is the increasing participation of private sector in the process of economic development. The desire for the approach is the empirical observations that the private sector is inherently more efficient, thus can bring about a faster rate of economic growth than the public sector-led development initiative. Greater participation of private sector is also being encouraged to free the government from action responsibilities and obligations thereby enabling it to concentrate its efforts and resources to the provision of support infrastructure and other related services.

Policies regarding the increasing role of private sector in agricultural production and agro-industry endeavors have been pursued by most of the member countries of ASEAN. The policies extend from the actual provision of incentives and subsidies to private entrepreneurs to the creation of an environment that is conducive to private investment. In general, the ASEAN has attained a great degree of success in promoting private investments in agricultural production, processing and marketing activities thru attractive policy measures but because of varied social economic and political considerations the preferred areas of investment differ in extent and scope.

There is very minimal attempt to monitor the extent and level of private sector involvement in agribusiness development.

Hence, policies and program formulations including policy adjustments that will maximize the contribution of the private sector to the agricultural sectors' development have not fully materialized.

It is for these reasons that this study has been conducted. The study will cover prospective issues on government policies and programs that affect private sector investment and come up with results that will enable the two sectors (private & public) to work hand in hand and finally give rise to policies and programs that will attract private sector investments in agribusiness.

III. OBJECTIVES OF THE STUDY

1. To review and analyze the role and impact of private sector involvement in agribusiness particularly with regard to the growth and development of the agricultural sector as is relates to the country's national economy;

2. To present existing government policies towards greater participation of private sectors in agribusiness;

3. To reexamine the government incentive structures that have an inclination on private sector participation in agribusiness; and

4. To draw up recommendations on some policy adjustments needed by the government to promote extensive participation and investment in agribusiness.

IV. SCOPE AND LIMITATIONS

The study covers an extensive review of agricultural policies affecting the private sector's ability to engage in agribusiness activities that will enhance not only the agricultural sector but the whole economy as well. However, this study hinges on secondary data due to limited access to private sector data.

V. GOVERNMENT - PRIVATE SECTOR AGRIBUSINESS MATRIX

1. Department of Agriculture Priority Commodities

In terms of priority attention, the Philippine agriculture remains concentrated on a few primary commodities which have traditionally provided the food requirements and accounted for a major portion of the export earnings of the country, to wit:

A. Rice

B. Corn

C. Coconut

D. Sugar

E. Livestock and Poultry

F. Fisheries and aquaculture

G. Tobacco

H. Fiber

I. Fruits and Vegetables

J. Ornamentals

Combined, rice, corn, coconut and sugar accounted for 32% of the 1990 agricultural GVA; the livestock and poultry sectors and fisheries sector accounted for 23% and 18%, respectively. Attending to the development of these sectors would actually address the needs of the populace.

The Department of Agriculture (DA) will continue to support increased productivity in these major commodities, provided the country has comparative advantages in producing these and that

such production does not endanger the resource base. This support will not only enhance the income and well-being of the majority of the population, but will also enable the country to attain self-sufficiency in basic food requirements. It will also help improve the balance of trade by increasing export earnings and minimizing importation of primary commodities.

The DA will also promote diversification of viable alternative crops, livestock and aquatic products in order to broaden the opportunities of rural folks to increase their incomes and to reduce their vulnerability to volatile markets. Diversification will also be promoted to improve the country's food security, increase export earnings and reduce imports thru import replacements.

2. Contribution of the Private Sector to the Economy

Due to limited access to private sector files, available data on private capital investments as well as the top 20 agricultural firms compiled by the Securities and Exchange Commission (SEC) were chosen to determine the extent of private sector contribution to agribusiness.

From 1981 to 1989, investment in agriculture accounted for 16% of the total paid-up capital investment of newly registered domestic stock corporations and partnerships (Table 4). The bigger share of these investments went to the other sectors of the economy such as manufacturing, mining and quarrying. As of 1989, 87.42% of the total private investments went to non-agricultural sectors while only 12.58% flowed into agribusiness.

Also, based on the Fookien Times list of leading entities, a total of 129 agribusiness firms made it to the elite group of 1,000 leading corporations in 1989. Among the top agribusiness firms are San Miguel Corporation, Coca-cola and Nestle Philippines, which added billions of funds to the national coffers in forms of income taxes.

The top 20 agribusiness firms are the following:

1. San Miguel Corporation
2. Nestle' Philippines
3. General Milling Corporation
4. Atlas Consolidated Mining and Development Corp.
5. Republic Flour Mills
6. Benguet Corporation
7. Purefoods Corporation
8. Del Monte Philippines
9. Paper Industries Corporation
10. Dole Philippines
11. Victorias Milling Company

12. Vitarich Corporation
13. Marsman and Company, Inc.
14. Granexport Manufacturing, Inc.
15. Legaspi Oil Company
16. Sugar Philippines
17. DM Consunji Corporation
18. Ayala Corporation
19. Lu Do and Lu Yu Corporation
20. Jollibee Food Corporation

These firms were categorized based on stockholders' equity, market, operations and number of product lines to determine their investment capacity and potentials to engage in agribusiness and other related activities.

Record shows that the focus of the top 20 agribusiness corporations is geared towards livestock and poultry, coconut, corn, coffee, cacao, fruits and vegetables, wheat, flour and prawns. (Table 5).

In 1990, the top 20 agribusiness corporations generated a gross revenue of P 74.978 billion and net profit before tax of 7.405 billion (9.87 % return on revenue) as against the top 1,000 corporations' total gross revenue of P 638.009 billion and net profit before tax of P 59.063 billion (9.25% return on revenue). In effect, the top 20 agribusiness corporations contributed 11.75% and 12.53% of total gross revenue and net income, respectively.

In the past, the government have implemented policies and strategies affecting some of the commodities engaged by the private sectors such as livestock and poultry, corn and coconut but every little attention was directed towards the rest.

Rice being the major staple food of 90% of the Philippine population had been given primary importance by the government. The rice industry contributes about 15.3% to the gross value added in agriculture and 4.7% of the gross domestic product. About 28% of arable lands are planted to rice and 63% of the farmer's population depends on the crop for livelihood. Expansion in palay and corn production have been critical for the welfare of the mass of the rural population, as they are the main source of income for the majority of small farmers.

While all-out support is given to both rice and corn, the government likewise supports non-traditional agri-fishery products with export potential. These include cutflower, aquaculture (prawns, carrageenan), tropical fruit, spices, and fiber. While initial efforts for the development of these products are purely private sector-initiated, the Department of Agriculture still provides the necessary support particularly in developmental aspects where risks are considerably high.

These efforts of the Department of Agriculture are premised on the conviction that the nation's stability and progress, at this stage, can only proceed from a strong and vibrant agricultural productivity. Higher farm incomes can hope to hasten industrialization. Stronger purchasing power in the rural areas expands the market for industrial goods and services, creates more off-farm employment opportunities to absorb excess labor in agriculture, and generate greater rural savings to finance investments in industry.

Recent government and private sector collaborations include the LEAD Program (Livelihood Enhancement for Agricultural Development) where farmer-cooperatives are provided agribusiness livelihood projects with assured markets through contract growing arrangements with the private sector and management support. Government facilitates for easier access to low interest loans and funds for investment feasibility studies.

Another program is the Cattle Financing Program where the government provides a relatively low interest loan payable over a 15-year amortization period. Target beneficiary here are the small and medium-scale commercial ranchers. In both programs, the government provides a guarantee mechanism to cover risk of default in favor of the lending institution. In effect, the availability of low cost credit for agribusiness projects is effected.

In addition, as part of its agenda to remove biases in the attainment of total agribusiness development, the new administration sets the phase for privatisation of government propelled activities, in line with the governments policy to leave to the private sectors activities which it can do better and efficiently. The Department of Agriculture has been privatizing many of its subsidiaries and functions. Some of those being dispensed of are the Food Terminal Inc., the refineries of the National Sugar Refineries Corporation, the Philippine Cotton Corporation, the dairy facilities of the Philippine Dairy Corporation, and the Bureau of Animal Industry's vaccine laboratories. In addition to this, some of the National Food Authority's warehouses and Philippine Fisheries Development Authority's ice and cold storage facilities have been leased to the private sector.

VI. POLICY AND PROGRAM REVIEW

The following are important policies which affects private sector involvement in agribusiness, in general:

1. FERTILIZER SUBSIDIES

This subsidy has helped the cost-push inflationary pressure on food prices. Here, the Rice Action Program (RAP) was implemented by the government where a two-tier price system for fertilizers was established, charging a higher price to commercial crop growers in order to subsidize the lower cost of fertilizers charged to rice growers. RAP allows the Regional and Provincial Officials to formulate, design and implement fertilizer subsidy schemes which would be more suitable to the needs and capabilities of their respective regions and provinces. In 1991, a total of 691,019 farmers have participated in the program covering 51,490 hectares. About 1.32 million bags of fertilizer were distributed and average yield attained was 89.63 cavans per hectare.

The Corn Production Enhancement Program (CPEP) was likewise implemented by the government. It is designed to provide fertilizer and seeds, increase credit availability, enhances access to post harvest facilities, and improve marketing thru the use of National Food Authority (NFA) facilities and the facilitation of contract growing arrangements. In 1991, total area planted under CPEP was 125,870 hectares. A total of 89,611 farmers received

221,343 bags of fertilizer. Average yield was 2.75 MT per hectare.

2. PRICE POLICIES

The imposition of retail ceiling prices on rice, corn, feeds and other basic staples is effected to prevent further price increases brought about by severe supply shortages. This policy favored the consumers and are deemed biased against the farmer producer. In the case of rice, consumer price control as tax imposition on farmers to subsidize low consumer prices. The same has created discontentment to rice farmers who were receiving prices lower than that prevailing in the world market. The support price of palay was maintained at P 6.00 per kilo. However, the National Food Authority (NFA) can only absorb less than 10% of total production due to limited funds.

Corn production, however, has enjoyed subsidies from the government and as such, corn producers have been receiving more than the existing world prices. Support price of corn remained at P4.50 per kilo.

3. TRADE POLICIES

Trade policies regarding tariffs have shown strong bias against the agricultural sector. While the industrial sector enjoyed an average tariff rate of 22.5%, primary agriculture on the other hand received an average of only 2%. In effect, there

is no protection given to local producers of primary agricultural products.

4. TAXATION POLICIES

Taxation policy is centered on the Value Added Tax system (VAT). One of its key features exempts the producers of major agricultural products in their original form from paying VAT. The VAT is based on the invoice method whereby each seller pays 10% of his sales, less 10% of the cost of his intermediate inputs. When applied to agriculture, the invoice method virtually raises the tax rate on processed agricultural products by making agricultural processor pay an effective sales tax instead of the VAT. This has led many agricultural processors to request help from the Department of Agriculture for a VAT exemption.

5. LAND REFORM POLICY

RA 6657 otherwise known as the Comprehensive Agrarian Reform Program (CARP) was pursued with the end in view of distributing land to the landless farmers to effect increased income and land productivity. It also assures farmers easy access to credit considering that land ownership is a mandatory requirement before loans are granted by financial institutions. Also included in the program is the intensified modernization scheme which will form compact farms and resettlement areas. This in turn will result to better management, farm innovations and broader benefits to the economies of scale. The establishment of cooperative farms promotes collective and individual entrepreneurship

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and consequently lead to the expansion of livelihood program.

The total area of lands distributed by the Department of Agrarian Reform (DAR) and the Department of Environment and Natural Resources (DENR) in 1991 totaled 357,979 hectares benefiting 201,777 farmer beneficiaries. For the same period, 267,160 hectares were placed under leasehold benefiting 170,904 farmer beneficiaries.

6. AGRICULTURAL CREDIT POLICY

Credit is a necessary instrument to both rural and agricultural development. Agricultural credit includes the financing of production on farm and off farm facilities, operating capital for processing, transporting and marketing. The pursuit of economic activities in the rural areas will be facilitated by the increased availability of credit for small farmers and fishers. Loan releases of government credit programs for small farmers and fishermen in 1991 exceeded P 2.0 billion. However, these program loans represent merely 0.3% of the total loans granted o the agricultural sector by the banking system amounting to P 600 billion.

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VII. ISSUES AND PROBLEMS

I. POLICIES THAT ARE DEEMED BIASED AGAINST AGRICULTURE

A. TRADE POLICIES

Since 1981, the government has been implementing an import liberalization and tariff reform program which aimed at liberalizing the country's trade protection. However, the program failed to correct the unequal protection which favored the industrial sector in the past. Under such program, the industrial sector currently enjoys an average tariff rate of 17.02% while primary agriculture enjoys a mere 1.59% and processed agriculture 1.17%. An example of this one-sided trade protection policy is the liberalization of the importation of apples, oranges, and grapes which are now flooding the markets. On the other hand, the importation of vessels and spareparts as well as industrial freezers is still being restricted by the Board of Investments (BOI). Yet these industrial products that are not produced in the country are necessary for the transport and post-harvest handling of agricultural produce. Local producers are now disadvantaged since aside from directly competing with imported fruits, they have to bear the burden of high transport costs and product losses due to spoilage. In addition, the high cost of packaging and canning materials also hampers the growth of the Agribusiness processing sectors.

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B. TAXATION POLICY

The VAT system is based on an invoice method whereby each seller pays a 10% tax on his sales, less 10% of the cost of his intermediate inputs. It exempts producers of agricultural products in their original form. When applied to agriculture, this method raises the tax rate on processed agricultural products by making the agricultural processor pay an effective sales tax instead of VAT.

C. MACROECONOMIC AND EXCHANGE RATE POLICIES

For years, the government has had a fiscal deficit which means it has been spending more than the revenues it collects. In any economy, a fiscal deficit implies a trade deficit, meaning, the country's earnings from exports are less than its expenditures on imports. our country's economic managers choose to finance these deficits with borrowings here and abroad rather than by increasing our exports. These borrowings overvalue the peso. An overvalued peso penalizes all exportable goods in the country by making them more expensive and therefore, less competitive in the world market. Since agricultural products are the principal exports of the country, producers and exporters of the agricultural products are the hardest hit.

D. TRANSPORT POLICIES

1. The one-port-one operator policy of the Philippine ports Authority (PPA) has created cargo handling monopolies in public

ports which lead to gross inefficiencies and high costs in shipping agricultural goods.

In short distances, handling costs in public ports easily exceed the freight rates. In the Cebu-Dumaguete run, for example, which covers 70 nautical miles, handling costs for rice and corn exceed the freight rate by 40%. Moreover, handling costs in private ports where there is no monopoly are only about 1/4 of those in public ports.

2. BOI restrictions on the importations of vessels, spare parts and containers have slowed down the expansion of the domestic inter-island fleet that is needed to meet the growing demand for shipping services.

3. The Maritime Industry Authority (MARINA) policy of allowing no more than one or two shipping lines in each route restricts competition and increases the cost of shipping services.

E. GOVERNMENT EXPENDITURE

Government spending on agriculture and the rural sector has been inadequate and less proportionate to agricultures share in the Gross Domestic Product (GDP). Public or government spending for agriculture averaged only 10% of the total estimated expenditures from 1980 to 1989. The ratio of the share of agriculture in the total public expenditures to the contribution of agriculture to the GDP averaged only 50% for the period. This implies that in the 1980's, for every 100 pesos contributed by

the sector to the economy, only 10 pesos went back to it in the form of government spending.

F. NATIONAL RESOURCE PRICING

The underpricing of natural resources encourages indiscriminate exploitation and jeopardize the sustainability of agricultural productivity and rural development. The low fees charged for the use of timber, mineral and other resources encourage indiscriminate exploitation of these resources.

The consequences of these biases against agriculture can be observed in five essential aspects of agricultural production:

1. Lower investments in agricultural concerns;

2. High post-harvest losses resulting mainly from a poor post harvest system;

3. Poor prospects for agricultural activity;

4. Less competitive agricultural markets;

5. Food supply problem.

2. LACK OF STANDARDS

The lack of uniformity in weight measurement is prevalent in raw agricultural products. Most of the Filipinos are still accustomed to selling "by tumpok", "by balde" or "by piece". The

ideal of course is the use of internationally accepted units of standard measurement in terms of kilos or net kilos.

VIII. RECOMMENDATIONS

First and foremost, the identified biases against agriculture must be corrected, to wit;

1. To remove harmful effects of trade policies on agriculture, some reforms must be implemented:

a. The tarrif rates on industrial products used as inputs should be lowered.

b. To attract more private investments into agriculture, more agricultural activities and support services should be included in the Investment Priorities Plan of the Board of Investments.

In sum, the government should lower the tariff rates on industrial products used as inputs in agriculture. The Department of Agriculture is specifically recommending the reduction of tariff rates for industrial products that are important inputs to agriculture such as; prawn feeds and feed ingredients, livestock vaccines, livestock and poultry medicines, pesticides, fishing gear and agricultural machinery.

2. To make the VAT system equitable for both industry and agriculture under the taxation policy, the VAT for processed agricultural products must be based on the value added instead of the total value

3. Under the macroeconomic and exchange rate policies, to de

crease the budget deficit, government should continue reducing its expenditures on programs and projects which do not benefit the majority of the population. To lessen the trade deficits and increase competitiveness of the country's exports, a peso devaluation must be programmed. Government should also continue improving tax collection.

4. To remedy problems under transport policies, shipping and port services must be open to all firms who wish to provide such services. The Department of Agriculture and private shippers must also be included in the PPA Board so that their interests can be adequately represented in formulating port management policies.

5. To improve the environment for increased productivity and incomes in the rural areas, government must increase spending for agriculture and the rural sector.

The government must specifically increase the share of infrastructure investment in agriculture. These resources should be used to build, primarily, barangay roads, bridges, highways, ports, and fish landings, and secondarily, storage facilities.

6. The low fees charged for the use of timber, mineral, and other resources encourage indiscriminate exploitation of these resources. In order therefore to promote judicious resource use, there is a need to increase these government fees. Also, penalties should be imposed on persons or entities that pollute envi-

ronmental resources traditionally regarded as free, such as air and water, so that these are not polluted freely and indiscriminately.

7. If the lack of standards refer to that of quality, the Department of Agriculture in collaboration with the Bureau of Product Standards of the DTI should sit down and be able to determine the different standards required of each product market. Such standard should conform to what the common market requires.

IX. CONCLUSION

Agriculture in the past has achieved modest accomplishments compared to other sectors. However, the role of the private sector group in the development of agriculture cannot be overemphasized. For one, their role is merely complementary. Whereas the government sets the policies conducive for the continued private sector participation in the development process, still the ideal situation is one where there is less direct government intervention and allow the wheel of development rests in the hands of the private sector. As such, the government must merely act as a facilitator with accompanying incentives to motivate the private sector to actively engage in agribusiness. Here, the role of the two sectors can be described as forward and backward integration. The backward linkage will be provided by the government and the forward linkage by the private sector. The government must support the private sector's efforts to concentrate on a few selected high-value products such as prawns, cutflowers, coffee, cacao, tuna, ramie, spices and fruits where the country strive for leadership in specific foreign markets.

In addition, to enhance the growth of agriculture through agribusiness development, the government and the private sector must work hand in hand to establish a policy environment conducive to increase agricultural production and profitability. The implementation of programs that will support the development of the full productive potentials of small farmers should be has

tened as well as the delivery of support services to them. Also, the effective implementation of policies and measures to ensure the sustainable development of agricultural resource base should be further promoted.

In sum, there is a need for the private sector to act as the prime mover in agribusiness development. As the various implementation standard of the government takes effect, agricultural performance will become increasingly dependent on the capability of the private sector. Success of liberalization is premised on the expectation that a competitive private sector will perform more efficiently than a monopolistic public sector. For this, the active support of farmer groups, traders, processors, bankers, non-government organizations is needed to join hands with the government in unleashing the vast potential of agriculture to contribute to our country's growth and stability.

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TABLE 1. GROSS NATIONAL PRODUCT, NATIONAL INCOME AND GROSS DOMESTIC PRODUCT BY
(In million pesos at current prices)

TYPE OF PRODUCTION	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990
1. AGRICULTURE, FISHERY AND FORESTRY	37,615	41,982	47,360	55,543	61,761	69,391	76,721	84,546	139,305	162,519	155,989	170,770	190,153	226,698	261,940
2. INDUSTRIAL SECTOR	46,095	53,100	61,281	76,934	96,722	111,597	122,583	138,180	186,154	200,544	204,980	232,585	277,155	322,270	371,917
a. Mining & quarrying	2,128	2,488	3,333	5,810	8,095	6,849	6,106	7,021	9,714	11,529	12,445	13,600	15,996	16,463	17,029
b. Manufacturing	32,931	37,392	43,688	52,144	64,555	75,151	83,133	95,172	137,251	150,523	155,172	173,539	207,427	241,256	273,953
c. Construction	9,805	11,794	12,591	16,855	21,311	26,268	29,302	30,730	31,209	27,506	22,685	28,113	33,645	42,677	49,733
d. Electricity, gas and water	1,231	1,426	1,669	2,125	2,761	3,329	4,042	5,257	7,980	10,986	14,678	17,333	20,087	21,874	26,192
3. SERVICE SECTOR	51,562	59,144	69,028	85,066	106,167	124,270	141,293	161,370	214,807	249,621	266,160	305,013	358,544	415,567	495,960
a. Transportation	7,348	8,415	9,894	12,377	16,444	19,618	21,376	24,378	33,820	38,263	39,256	42,027	44,973	47,980	59,757
b. Trade	18,810	22,276	26,433	33,517	42,050	49,765	56,356	66,094	99,711	118,370	121,243	137,375	162,668	188,749	223,916
c. Finance & Housing	10,354	11,689	13,617	16,606	20,608	22,612	26,141	30,002	31,203	32,287	38,168	48,467	55,688	67,492	80,463
d. Private Services	8,137	9,346	10,465	12,771	15,572	19,345	21,031	23,357	28,819	33,668	35,765	38,534	44,246	52,036	61,654
e. Government Services	6,913	7,418	8,619	9,795	11,493	13,930	16,389	17,539	21,254	27,033	31,728	38,610	54,969	59,310	70,270
GROSS DOMESTIC PRODUCT at market prices	135,272	154,226	177,669	217,543	264,650	305,258	340,435	384,096	540,466	612,684	627,129	708,638	825,852	964,535	1,129,817
Net factor income from abroad	(1,070)	(971)	(647)	489	(118)	(1,630)	(5,162)	(5,350)	(13,111)	(14,941)	(12,426)	(5,007)	(2,982)	(2,621)	2,587
GROSS NATIONAL PRODUCT at market prices	134,202	153,255	177,022	218,032	264,532	303,628	335,435	378,746	527,355	597,743	614,703	703,361	822,870	961,914	1,132,404
Indirect taxes net of subsidies	11,782	13,603	16,851	22,379	25,750	25,928	28,665	34,689	43,920	49,346	52,309	70,231	64,160	78,504	91,498
Depreciation	12,873	14,598	16,759	20,538	24,543	30,658	34,664	39,180	53,749	67,222	71,682	77,615	79,637	87,101	99,818
NET NATIONAL PRODUCT OR NATIONAL INCOME	109,547	125,054	143,412	175,115	214,230	247,042	272,106	304,877	429,686	481,175	490,712	555,515	679,023	796,309	941,603

Source: Economic and Social Statistics Office: National Statistical Coordination Board

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TABLE 2. GROSS VALUE ADDED IN AGRICULTURE, FISHERY AND FORESTRY BY INDUSTRY GROUP: 1976-1990
(In million pesos at current prices)

TYPE OF PRODUCTION	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990
AGRICULTURAL CROPS	23,590	25,921	28,602	34,269	36,332	40,386	44,198	47,779	83,470	98,819	87,576	95,516	106,926	129,980	147,326
Palay	6,257	6,351	6,935	7,699	9,080	10,901	11,944	12,225	21,417	29,251	21,021	24,028	28,018	35,598	39,701
Corn	2,322	2,711	2,780	2,837	3,481	4,044	4,563	5,272	7,710	10,687	9,377	11,551	11,731	15,833	18,424
Coconut including copra	3,102	3,755	4,050	5,861	4,536	3,066	3,053	5,221	10,975	8,837	7,460	8,852	9,490	11,396	12,216
Sugarcane	2,545	2,117	2,176	2,508	2,700	3,182	4,053	3,286	5,329	3,359	3,171	4,030	5,150	6,189	6,826
Banana	721	845	1,044	1,285	1,483	1,697	1,757	2,538	3,954	4,495	4,450	5,068	5,304	5,665	6,389
Other crops	8,643	10,142	11,609	14,029	15,052	17,496	18,828	20,237	34,085	42,191	42,006	42,257	47,233	55,299	63,270
LIVESTOCK	2,856	3,047	3,392	3,855	3,839	4,195	4,616	5,330	9,435	10,068	10,969	11,742	13,891	17,491	22,339
POULTRY	1,481	1,783	2,134	2,732	3,650	4,838	5,779	7,106	11,441	14,873	14,865	16,286	18,988	22,339	27,716
FISHERY	6,386	7,476	8,498	9,568	11,198	13,821	11,777	16,790	23,116	27,984	32,705	36,319	37,227	44,546	51,121
FORESTRY	3,302	2,738	4,734	5,119	6,743	6,151	7,351	7,541	12,043	10,865	9,874	10,907	13,121	12,342	13,747
GROSS VALUE ADDED IN AGRICULTURE, FISHERY AND FORESTRY	37,615	41,982	47,360	55,543	61,761	69,391	76,721	84,546	139,505	162,519	155,989	170,770	190,153	226,698	261,949

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Table 3. EMPLOYMENT PERCENTAGE IN AGRICULTURE

PERCENT OF EMPLOYED:	PHILIPPINES
Agriculture	
1981	51.1
1982	51.3
1983	51.4
1984	49.6
1985	48.9
1986	49.9
1987	47.8
1988	46.1
1989	45.1
1990	45.2
Non-agriculture	
1981	48.9
1982	48.7
1983	48.6
1984	50.5
1985	51.6
1986	50.1
1987	52.2
1988	53.9
1989	54.9
1990	54.8

Table 4. Paid-Up Capital Investments of Newly Registered Domestic Stock Corporations and Partnerships: 1981-1989 (In thousand Pesos)

Year	Agriculture/ Fishery/Forestry	%	Non-Agricultural Sector	%	Total
1981	369,399	23.94	1,173,409	76.06	1,542,808
1982	302,463	18.35	1,328,492	81.45	1,630,955
1983	200,985	11.50	1,546,846	88.50	1,747,831
1984	206,879	18.01	941,710	81.99	1,148,589
1985	310,441	15.00	1,758,519	85.00	2,068,960
1986	255,748	16.11	1,332,145	83.89	1,587,893
1987	549,760	17.15	2,655,651	82.85	3,205,411
1988	746,822	12.66	5,148,607	87.33	5,895,429
1989	1,019,218	12.58	7,079,691	87.42	8,098,909

Note:

1) The investments on food, beverages, and tobacco listed in the source under manufacturing are included under agriculture, forestry, fisheries. It is estimated that about 40% of total investments in manufacturing are on food, beverages, and tobacco.

2) Non-agricultural sectors include mining and quarrying, manufacturing sectors other than food, beverages and tobacco, construction, utilities, electricity, trade, insurance, transport services and other services.

SOURCE: PHILIPPINE STATISTICAL YEARBOOK, 1990

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TABLE 5. PHILIPPINES' TOP 20 AGRICULTURAL SECTORS

NAME OF COMPANY	STOCKHOLDER'S EQUITY	MARKET	OPERATIONS	PRODUCT LINE	GROSS REVENUE (P'000)	NET PROFIT BEFORE TAX (P'000)
1. SAN MIGUEL CORPORATION	11,308 M	Domestic market share = 85-90% Export: beer	-Beer is delivered via integrated land & sea transport -Poultry operation cover all phases of business from breeding, growing and processing of broilers	Beer Dairy products Poultry & Livestock Feeds Packaging Prawn feeds Prawn	26,331,768	3,163,027
2. NESTLE' PHILIPPINES	1,464 M	Locally: Exporter:	-Manufacturer, wholesaler exporter & distributor of dairy products -Soya-based product -Infant foods -Noodles & seasoning	Coffee mills tea Coffee creamer choco drink Soya-based product Infant deletics Noodles & Seasoning	7,516,630	847,931
3. GENERAL MILLING CORP.	-			Flour, milk, poultry & hogs, instant coffee, snack foods soybean	3,178,723	198,980
4. ATLAS FERTILIZERS CORP.	332 M		-Manufacturer, importer & distributor of fertilizer & agricultural & industrial chemicals -Engaged in integrated prawn culture project	Fertilizer Agricultural & Industrial chemicals	5,021,487	329,688

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NAME OF COMPANY	STOCKHOLDER'S EQUITY	MARKET	OPERATIONS	PRODUCT LINES	GROSS REVENUE (P'000)	NET PROFIT BEFORE TAX (P'000)
5. REPUBLIC FLOUR MILLS	704 M	Importer: wheat from Australia, Canada and US	-Grocery Division -Agri Division -Flour Division	Flour Poultry & wheat products Consumer products	3,513,338	345,419
6. BENGUET CORPORATION	2,087.6 M	Export copper to Nissho-Iwai American Corp. under a 3-yr. contract	Benguet Gold Operations -Dizon Copper Operations -Masinloc Chromite Operations -Paracale Gold Operations	Mining-gold, silver, copper and chrome	4,026,690	407,947
7. PUREFOODS CORPORATION	891 M	Exporter	-Manufacturer of canned meat products, fresh processed meats, canned fish, fruits and vegetables -Exporter of "sahkies" canned tuna - US, "Three diamonds" & "Geisha" canned tuna -Europe	Poultry, meat, canned fish, fruit and vegetables, flour	2,841,455	152,420
8. DEL MONTE	1,457.7		-Manufacturer: growing & & canning of pineapple and tomato	Pineapple kiwi Orange juice Tomato meal sauce	2,421,982	264,195
9. PAPER INDUSTRIES	1,351.9 M	Locally, the company supplies 90% of newsprint market and 69% of the Kraft paper market	-Processor/producer of pulp and paper products, timber products and finished lumber products	Pulp & paper i.e. newsprint, kraft container board, corrugating medium mechanical paper, telephone directory paper Timber products i.e. logs, lumber (4DIRD) finished lumber products, plywood (type 1 & 2 up to 5 ft x 10 ft),	2,712,315	62,825

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NAME OF COMPANY	STOCKHOLDER'S EQUITY	MARKET	OPERATIONS	PRODUCT LINES	GROSS REVENUE (P'000)	NET PROFIT BEFORE TAX (P'000)
10. DOLE PHILIPPINES	737.7	National & International to US, Japan, Hongkong, Singapore, Italy, Middle East, South Korea & Peoples' Republic of China	-Operates with 4 divisions namely: pineapple, stanfilco tropifresh, seafood -Distributor: Ace Foods Corp. and Kawsek Phils., Inc.	Major grower/exporter & processor of pineapple & banana, tuna exporters; manufactures boxes & cans for its use	2,640,478	104,158
11. VICTORIAS MILLING CO.	738		-Manufacturer of raw and refined sugar -Non-sugar operations include manufacture of subjects foundry & machineshop products, fiberglass reinforced plastic pipes and tanks, sugar milling equipment and farm machinery subject canned food products engineering services, hospital and medical services, educational, shipping, management consultancy & technical services and project such as free farm plantation, swine aquaculture, cattle and organic fertilizer	Raw refined sugar Brand name: "VMC" "Victorias"	3,184,964	122,966
12. VITARICH	672 M			Poultry & hogs Animal feeds Aquaculture feeds Processed meats Veterinary products	2,146,764	60,036

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NAME OF COMPANY	STOCKHOLDER'S EQUITY	MARKET	OPERATIONS	PRODUCT LINES	GROSS REVENUE (P'000)	NET PROFIT BEFORE TAX (P'000)
13. MARSMAN	120.7 M	Import: merchandise from US, Germany, Italy, Switzerland Holland & Australia thru Letters of Credit	-Wholesale & distributor of Pharmaceutical products, and vet. products, food & food preservatives and products -Importer & distributor of hospital equipment	Pharmaceutical products like ethical drugs, agro and vet products, food and wood preservatives and chemicals, hospital equipment & non-crude coconut oil and coconut by-products	1,327,905	32,243
14. GRANEXPORT MFG. CORP.	429.5	Export: crude coco oil & coco by-products	-Manufacturer, exporter, distributor		1,470,775	52,007
15. LEGASPI OIL COMPANY, INC	642 M	Internationally sold to US, Russia China, Japan South Korea	-Coconuts from local suppliers used to import spare parts from US -parts are the most important items in the order list of subject per company source		1,731,805	57,926
16. SUGAR PHILIPPINES, INC.	.8 M	Local: Coca-cola Bottling Company Foreign: Am sugar Corp. (USA) Farman International Corp. (USA)			831,600	1,429
17. DM CONSUNJI	153.5 M		-General contarctor- roads, buildings, and other infrastructure	Housing, mining, arrastre, stevedoring, steel barges, tugboats & fishing vessels	691,816	26,487

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NAME OF COMPANY	STOCKHOLDER'S EQUITY	MARKET	OPERATIONS	PRODUCT LINES	GROSS REVENUE (P'000)	NET PROFIT BEFORE TAX (P'000)
18. AYALA CORPORATION	4,551 M	No data available	-Holding Co. of the Ayala Group of Companies monitoring its investments and allocating resources among its inter-industry subsidiaries -Fxn's mainly as a strategic planning body concentrating on the identification of new business opportunities	Real estate Export trader Banana Mango Shrimp Plastic fabrics Shoes	1,370,404	1,243,173
19. LU DO & LUYM CORP.			-Manufacturer, exporter of coconut oil & corn starch	Coconut oil, corn starch, Brand names: Capitol, Farola, Anchor Pigeon	1,153,115	4,423
20. JOLLIBEE FOOD CORP.	141 M	Local: Metro Manila Pampanga, Dagupan, Baguio, Laguna	-Manufacturer (20%) -Wholesaler (21%) -Retailer (55%) -Services (4%)	Jollibee products Hamburger, hotdog, fried chicken, spaghetti, palabok, french fries, sundaes, bulk chicken, coleslaw, jelly twirls, mango pie, softdrinks	863,918	75,267

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THE ROLE OF THE PRIVATE SECTOR IN THE DEVELOPMENT OF THE POULTRY (BROILER) INDUSTRY: IMPACT ANALYSIS AND POLICY ISSUES 1/

by

AUDIE C. UGALINO

1/ A case study report submitted to the ASEAN Agricultural Development Planning Center in Bangkok, Thailand on July 1992.

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EXECUTIVE SUMMARY

The poultry industry has become one of the most progressive sectors of the Philippine agricultural economy. During the 1984-1985 recession period, the poultry and livestock sub-sectors contributed greatly in the economy's recovery process. The Gross Value Added for swine and poultry grew at an average of 3.6% and 8.4%, respectively. for the 1980-1990 period. Even as the major ruminants (cattle and carabao) population declined for the 1985-1990 period, hogs and chicken population demonstrated strong growth rate of 2.0% and 6.4%, respectively. The poultry subsector have the highest degree of commercialization at 30% of inventories being held by commercial farms. The shift from smallholders and subsidiary to intensive commercial operations resulted to the rapid growth of the poultry industry in the Philippines.

The important policies critical to the poultry subsector are (1) trade policies particularly tariffs to agricultural imports and the Import Liberalization Program, (2) incentive and taxation policies such as the Investment Priorities Plan which provides incentives and tax exemptions for specific agricultural activities, (3) exchange rate policy wherein the peso overvaluation makes the feed-livestock export less competitive in the world market, and (4) research expenditure policy where government needs to increase its budget for R & D.

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The private sector is the major player in the poultry industry. According to estimates of the Bureau of Animal Industry, the poultry and swine sectors use three-fourths of the total corn production and all of rice bran by-products for its operation. As such, the poultry and swine sectors provide the impetus for the growth of the riece and corn industries and other related industries as well. The big integrators in the poultry industry introduced technological advances in the poultry industry. These integrators likewise introduced and popularized integration of production and marketing operations in the poultry business which led to better efficiency. The big integrator also served as models and provided a challenge to cooperatives to venture into similar integrated poultry operations. They introduced branding and brand advertisement for their poultry products. The biggest contribution of the poultry industry is the provision of employment to thousands of people directly and indirectly involved in its operation.

Inspite of the good performance of the poultry industry and its positive contribution to the economy, it is faced with various problems and issues such as (1) tight supply and high cost of basic animal feed ingredients, (2) scarcity of credit and high interest rates, (3) prevalence of diseases and poor nutrition, (4) power crisis, (5) lack of breeding animals, (6) problems in industrial peace, and (7) disorganized marketing system.

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(6) market intervention policy particularly on grain importation.

Both the public and private sector institutions responsible for the development of the poultry industry need to cooperate, coordinate and compliment each other. They must put their acts together harmoniously for a much better poultry industry which can greatly contribute to the Philippine economy.

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I. INTRODUCTION

The agricultural sector of the Philippines still plays a dominant role in the economy even as we are in the decade of the ninetees. Agriculture is still the main economic activity for a large segment of the population accounting for 65% of employment or 10 million people in 1990. The agriculture sector which contributes around 27% to Gross Domestic Product was a strong factor in the recovery of the Philippine economy from its negative GNP growth rates in 1984 and 1985. The livestock subsector, particularly hogs and poultry, contributed greatly on the recovery process due to the relatively high income elasticities of livestock consumption. As such, during the 1985-1988 period when the economy began to recover, per capita real income grew at an average of 3.4% while total consumption of livestock accelerated at 7% per year, from the combined effects of income and population growth. (Refer to table 1)

A. Livestock Subsector

The Philippine livestock industry, which includes poultry, hogs, cattle and carabaos, contributes an average of 20% to the gross value added (GVA) in agriculture. Total GVA for livestock and poultry in the Philippines has been growing at an average of 5.6% and 8.4 %, respectively for the period 1980-1990. (Refer to Table 2) Domestic meat supply comes primarily from hogs and poultry, aggregately contributing around

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80% of total meat supply.

B. **Livestock Population**

Poultry and hogs exhibited modest gains of 1.1 percent and 0.6 percent, respectively for the period 1970-1990. The recession years of 1980-1985 negatively affected the growth of the livestock population with chicken population having a low positive growth rate of 0.16 percent compared to the negative growth rates for cattle (-1.2%) and hog (-1.3%) population. As the economy recovered in 1985-1990, the major ruminants population (cattle and carabao) declined while hogs and chicken demonstrated strong growth rates of 2.0% and 6.4%, respectively. (Refer to Table 3)

C. **Livestock Importation**

The Philippines is relatively sufficient in poultry meat, pork and eggs with minimal importation of porks (mostly pork belly, trimmings, liver and shoulder for meat processing) at a yearly average of only 2.6 thousand metric tons for the 1988-1990 period. Meanwhile, the average annual beef imports is 6.4 thousand metric tons for the same period. (Refer to Table 4).

The Philippines is however heavily dependent on imports for breeding animals, particularly Great Grand Parent (GGP), Grand Parent (GP) and Parent Stock (PS)

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for poultry and pure bred pigs. Between 1987 to 1989, the Philippines imported a total of 8,230 head of hogs, 3.8 million day old chicken and 19.4 million hatching eggs. It also imported 57,593 heads of feeder cattle from 1987-1990.

II. Livestock Production Structure

Livestock production in the country is predominantly smallholder types and backyard in operation, averaging 85% of total operation in 1990.

The swine and poultry subsector have the highest degree of commercialization at 15% and 30%, respectively, of inventories in 1989 being held by commercial farms. (Refer to Table 5). The commercial hog and poultry farms are integrated types of production, with the smaller farms mixing their own feeds while the larger farms having their own breeding and hatchery operations, manufactures commercial feeds for sale and for their own use, and engage in commercial meat processing.

The widely accepted farmer contract growing for broiler production is an example of integrated production system among the large poultry integrators. This contractual arrangement revolves around the sharing of costs and risks in the production process. The farmer contractor provides fixed capital (land, building and

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equipment) and labor while the integrator provides the chicken and feeds.

Integrators control 60% of commercial broiler operation. Integration of production and post-production operations has been a considerable advantage to these commercial broiler producers. The rapid growth of the poultry industry in the Philippines (as well as in the Association of Southeast Asian Nations) over the last 20 years has been the result of the gradual shift from smallholders and subsidiary to intensive commercial operations characterized by the use of high performance breeds of chicken which are usually imported and the direct transfer of technology in poultry production from developed countries.

II. THE POULTRY INDUSTRY... POLICY AND PROGRAM REVIEW

Government policies directly and indirectly affect the growth of the livestock sector and the poultry subsector. Some of the more important policies critical to the poultry subsector are as follows:

1. Trade Policies

The Philippines still requires import tariffs to inputs to agricultural production such as tariffs on feed ingredients and mixed feeds. This has a negative effect on the domestic production and expansion of the

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livestock industry, and to the poultry subsector n particular, since feeds comprise a substantial port n of costs in commercial livestock production.

Output protection takes the form of fixed import tariff rates imposed on corn, live animals, meat products and preparation, eggs and dairy. This can be considered as output subsidies because they tend to subsidize inefficient production through domestic price protection.

The Import Liberalization Program (ILP) has paved the way for the liberalization of chicken meat imports. An influx of chicken from countries which readily subsidize their exports could provide unfair competition which could undermine the viability of local chicken producers. In this regard, the Department of Agriculture shall continue to enforce phyto-sanitary restrictions in all livestock and meat imports.

At present, the government is thinking of granting a tariff protection rate of 50% for the poultry industry. It is either a 60% tariff rate on imported poultry products while retaining a 10% tariff on imported inputs or a 50% tariff rate for poultry imports to be matched by a 0 tariff on imported ingredients. Poultry producers prefers a 60% tariff of poultry imports with

0 tariff on raw material inputs.

2. **Incentives and Taxation Policy**

The government has embarked on a production-promotion policy to encourage more investment on poultry production. The production of poultry and breeders, feed ingredients and poultry feeds and the processing thereof were included in the 1988 Investment Priorities Plan. Firms duly registered and approved by the Board of Investments are granted the tax exemptions for the import of capital equipments, breeding stocks and genetic material.

Tax credits were also extended to domestic manufacturers of traditional poultry processing equipment as well as to the traditional processors themselves.

3. **Exchange Rate Policy**

The Philippine Peso has been overvalued over a long period of time and its immediate direct impact is on agricultural tradeables. The peso overvaluation makes the feed-livestock export production less competitive in the world market.

4. **Research Expenditure Policy**

Investment in poultry research amounted from P77,803 in 1962 to P1.3 Million in 1987, for a yearly growth of

16%. In a study conducted by PCARRD, it was revealed that for every peso invested by the government in research on poultry, P1.05 up to P5.26 may be gained. The book showed that investment in poultry research gives higher returns than corn, sugarcane and mango, for every peso invested. Research is conducted mainly to improve poultry productivity.

There is a need for better coordination between the government and private sector groups on research and development in poultry. Government should increase its budget for R & D while the private sector, particularly the integrators should put researches into use in their respective operations.

III. THE PRIVATE SECTOR IN THE POULTRY/BROILER INDUSTRY: ROLE AND IMPACT ASSESSMENT

The poultry and livestock industry provides the impetus for the growth of the corn and other grains industry. In particular, according to the estimates of the Bureau of Animal Industry it buys three-fourths of the total corn production and all of rice bran by-products. In 1989, this sector consumed P5 billion worth of domestic corn supplied by 1.3 million farmers. This sector also purchases significant tonnage of raw materials from other industries annually. It likewise buys from road freight transport, electricity, drugs and medicines, inter-island shipping, and

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wholesale trade. Through these purchases, the livestock and poultry industry contributes to the viability of these industries. Every peso spent by the poultry and livestock industry translates to more money to thousand of agricultural workers on the corn, rice bran, copra meal, fish meal and other industries.

The poultry generates employment through various means. The feed mill, broiler and yellow corn farms employ considerable number of people involved in dressing, processing, cold storage, marketing and veterinary and extension. Integrator firms employ a vast number of human resources. The contract growers raise the chicks in their own poultry houses with their own equipment, labor, and management. The independent growers also require labor as they are responsible for the growing and the marketing of the birds. There are no accurate data on industry employment but some examples might depict the employment impact of the industry. A broiler farm employs people on a 5,000 broiler heads per person proportion. By getting the reported population of 69 million heads in 1990, this is equivalent to employing around 14,000 persons already. This is just the people directly involved in production. It does not consider the employment generated by the broiler industry by purchasing from other industries.

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It was only from 1978 onwards that the commercial producers gained importance in terms of collective output. With the introduction of improved foreign breeds, technological advances in year round hatchery as well as brooding, and better knowledge of nutrition and management, the industry flourished as exemplified by the growth and development of the commercial firms better known as integrators. The six biggest poultry integrators and their daily capacity are (1) San Miguel Corporation (120,000 birds) (2) Republic Flour Mills (25,000 birds) (3) General Milling Corporation (25,000 birds) (4) Purefoods Corporation (25,000 birds) (5) Vitarich Corporation (25,000 birds) (6) Universal Robina Corporation (has no processing facility).

Vertical integrators in broiler production are dominated by the integrators which did not only introduce different strains of chicken but also vertically integrated the production and marketing aspects of poultry. The integrators became very efficient and as a result, more small independent growers who had to buy their feeds and chicks suddenly became contract growers of these integrators. Contract growing has growers as a vital production tool that has facilitated the expansion of the poultry industry. To date, contract growing is the biggest source of chicken meat, accounting for 70% of commercial broiler chicken produced nationwide. Contract growers supply 70% of broiler while commercial farms

(independent growers) make up the 30% balance. Average farming is about 3.5 hectares for contract growers, averaging a flock of 20,000 heads and employing 7 workers/farm directly. There are 1,500 contract growers employing a total of 10,500 workers. Independent growers have an average flock of 500 birds which provide livelihood to some 42,000 growers.

However, integrators employ the contract growing scheme only with large scale contract growers, who can afford to put up facilities to raise a minimum of 10,000 to 20,000 birds. As such, small and medium scale farmers, due to their scant resources, are not able to raise poultry in this magnitude. This created a big social problem among the country's small-scale farmers whose markets are being taken up by the livestock giants. These farmers cannot afford to lose their markets because the industrial and service sectors do not have the capacity to absorb the labor spillover of the agriculture sector. And this can create a major problem since we should consider the fact that it is still the backyard sector which comprises majority (70%) of the poultry industry with the commercial growers sharing only 20% of the industry. There is therefore a need for integrators to deal with farmer cooperative groups who are capable of putting up the required facilties for contract growing. This situation became a challenge to other cooperatives who were able to own and operate the different

stages of production for broilers. This cooperative, although very limited in number were able to put up processing plant, feedmill plant, breeding/growing/hatchery operation and develop their own marketing outlets. As a result, they were able to compete with big integrators which integrate all aspects of business. Examples of poultry projects owned and operated by small and medium scale producers are the Rizal Poultry and Livestock Raisers Association of San Mateo, Rizal and the Bulacan Poultry Raisers Association of Guiguinto, Bulacan.

Traditionally, poultry products were considered relatively homogenous and undifferentiated products at both the farm and retail levels. Today, the big integrators shifted to branding and brand ads in selling their processed broilers. The different brand names of the major integrators are: "Magnolia" for SMC, "Swifts/Blue Ribbon" for RFM, "Purefoods" for Purefoods Corporation, "Cooks" for Vitarich Corporation, "Home Pride" for General Milling Corporation. URC has no brand for their broiler as most of their products are sold to exclusive retailers. Branding tries to condition the minds of consumers towards brand loyalty.

The poultry industry is becoming more scientific in terms of adopting technology. Major producers brought into the country grandparent stock, hatching eggs, modern processing facilities and technological expertise from source

countries. This modern technology enables integrators to expand operation which will favor the increased interest of people in the countryside in going into contract growing with integrators. With modern technology providing assurance of good productivity, we can expect modest growth for the poultry industry over the years.

IV. ISSUES AND PROBLEMS

1. Tight Supply and High Cost of Basic Animal Feed Ingredients

Poultry feeds represent 64% of the direct cost to produce a kilo of live chicken. These feeds are made mostly from imported feed ingrediants like soybean, fishmeal, meat and bone meal, and other feed additives. Imported feed ingredients are imposed with 10% tariff despite the fact that world prices of such commodities are incessantly volatile.

Corn shortages are due to drought, high production cost, high transportation cost, low market price, lack of credit to farmers for inputs and lack of modern grain drying and storage facilities. The seasonality of corn supplies adds to storage and handling costs for feedmillers and integrator since they would only have one brief period to buy their stocks for the whole year and store these from four to six months. Most integrators prefer importation of cheaper and better

quality corn, yet the importation of corn is apparently being discouraged by the government to protect local farmers.

The abovementioned feed situation has resulted to higher cost of feeds which directly increases poultry price. Small poultry producers are much affected since they buy their feed requirements from integrators which manufacture commercial feeds.

2. **Scarcity of Credit and High Interest Rates**

Considering that the production of poultry are capital intensive undertakings, the financing needed for the purchase of stock feeds, and capital investments have been minimal over the last few years. Loans granted to livestock and poultry production has amounted to only 12.8% of the total loans granted to agriculture over the last five years. (Refer to Table 6). Moreover, the 5.6% annual growth in the volume of loans granted to the swine and poultry industries from 1985 to 1989 has not kept pace with the growth of these sectors.

The cost of money given as loan to poultry and livestock raisers is very high at 18-25% from commercial banks. This is so because the reserve requirement on deposits (time and savings) at commercial banks is very high at 25%. Consequently, the banks have to charge higher rates as they are only

able to use 75% of deposits for lending. Moreover, governments continued borrowing from the domestic sector, including financing institutions, at very high rates (17-18%), using T-Bills, is encouraging lending institutions to charge high interest rates and shy away from involvement in agricultural credit.

3. **Prevalence of Diseases and Poor Nutrition**

There has been no sustained health and disease prevention program for the swine and poultry industry due to the limited government budget for this activity and the inadequacy of government extension services to smallholders due to the lack of competent technicians in the field. The cost of vaccines have also increased over time and diagnostic laboratories with competent personnel are lacking.

The Mt. Pinatubo eruptions in 1991 coupled with typhoons resulted to disease outbreaks in poultry farms poultry growers are located in Central Luzon, the adverse effects of the eruption of Mt. Pinatubo may result in a reduction of growth in the poultry industry for 1991 over its 1990 performance.

4. **Power Crisis**

The poultry industry is expected to encounter serious problems due to the massive power outages in Luzon and Mindanao. These power failures have prevented

consumers from operating cold storages for prolonged period of time which may force them to shift from perishable food fares to canned goods or dried fish. The energy crisis has likewise resulted in contraction in the poultry market because of the growing numbers of industry closures and lay-offs caused by the power shortgaes. This further reduce consumers purchasing power.

Government planners projected the power crisis to continue until 1994. With the power crisis showing no signs of abating, the poultry industry will continue to suffer reduction in growth and earnings.

5. **Lack of Breeding Animals**

There has been little effort exerted to develop a "locally adapted" breed of poultry animals which are tolerant to Philippine conditions. Local breeders and hatcheries provide breeding animals but most of these are of specialized lines or breeds, unlike those in Thailand and Taiwan who have developed their own breeds for their domestic production. High dependence on importation may result to short supply of hatching eggs and day-old parent stocks because supplying countries themselves are faced with huge demands that remains unfilled because substantial portion of their production capabilities are previously geared to their

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domestic markets.

6. **Problems in Industrial Peace**

Unlike other industries, capital is lost when animal die during a prolonged strike. Diseases also set in and the recovery time after a strike takes over a year. The destructive strikes that hit four poultry integrators in 1987 paralyzed the industry and resulted in shortages and price escalations. Unions of the integrator companies are all affiliated with the militant "Kilusang Mayo Uno" labor group. The government seems to be helpless in addressing problems of industrial peace.

7. **Disorganized Marketing System**

Unlike the integrators, the small poultry producers are prey to the "roller coaster" trends that characterize the industry. Their supply responses are poor because they lack the information regarding market trends, supply, demand and price levels which are provided by the respective management information system of the integrators.

Other problems overlooked by authorities are disorganized marketing system especially at small producers level including transport and warehousing, absence of standards and weak quality control, resistance to new technologies especially at backyard

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level.

V. CONCLUSIONS AND RECOMMENDATIONS

A. Opportunities for Growth

The poultry industry was able to achieve a double digit growth rate in the early 1980s (1980-1983) and in 1988. There are many factors that will contribute to the industry's further growth and development. The country's GNP, representing purchasing power, has increased by 5.6 percent in 1989 and has been forecasted to grow further. Likewise, the 2.5 percent per year increase in population would mean more demand for poultry products. Aside from the pull emanating from the income and population factors, a closer look at the structure of Philippine population will reveal the country has a young population base. Persons from 1 to 34 years old comprise 70% of the population. For the poultry sector, this population structure means greater potential demand.

The per capita consumption of broiler chicken has increased as a result of stronger rightward shifts in the demand curves caused by increases in income, more eating out, the development of new product and cheapness of chicken relative to other major animal source of protein. The rapid growth of the fastfood industry brought about by the evergrowing young

population made big names such as Jollibee, McDonalds, Wendy's, Max's, Kentucky and Tom Sawyers as household words. Approximately 3,352,000 chicken are consumed in the Philippines fastfood outlets each month. Even the "lechon manok" or roasted chicken craze, also to a certain extent, caused an upsurge in demand.

Technology is a major factor that has led to the rapid expansion of the poultry industry in the Philippines. The development of hybrid chicken and formulation of feeds have substantially increased productivity and economies of scale. The availability of vaccines and drugs to control poultry diseases has also contributed significantly in reducing morbidity rates and financial loses arising from poultry-related diseases. Today, large commercial poultry companies have already existing breeding facilities for parent stock and the industry is planning to develop its own grandparent line. In a related development, the government has plans of stopping the importation of parent stock and limiting importation to grandparents which may be implemented by 1993. This would save our country a lot of dollars. These developments have resulted in affordable prices for chicken meat & eggs and have made these products a major source of protein for Filipino consumers.

The export market is also a growth potential. Potential export markets for poultry products are Japan, Hongkong, Singapore, Middle East and EC Countries. Japan is the most highly lucrative market by net exporters in the Asia Pacific. Chicken consumption in Japan has shown steady growth in both table and institutional use. Thailand is the largest supplier of chicken in Japan competing with U.S., Brazil and China. Hongkong's total poultry meat consumption has likewise shown steady increases. Hongkong gets its supply from China, US, Japan and the European Community. Singapore is likewise absorbing a substantial level of meat exports. The drop in local chicken production during the 1985-1987 period due to stringent environmental reasons forced the government to assure local supply with increased imports. Poultry meat import policies of these growth areas are as a whole, relatively liberal. However, potential exporters have to be aware of existing non-tariff barriers such as quantitative restrictions, licensing and state trading, and stringent quality regulation which have been widely practised by these importing countries. Poultry exporters must likewise be aware of health hazards, particularly drug residues. In addition, recent development in overproduction is also causing serious depression in the broiler market. This

tendency might gain momentum through the growing importation of broiler meat from countries such as Thailand and Malaysia.

B. Condition for Export Viability

The competitiveness of our broiler industry in the export market lies in the well-coordinated effort between the government and the private sector to reduce the cost of inputs as well as to increase the level of production efficiency. As far as feed is concerned, the government can contribute towards improving the feed production and marketing of corn as follows:

1. Implementation of a program for corn aimed at providing the necessary inputs for production to corn farmers;

2. Establishment of an efficient rural infrastructure program;

3. Initiating a well-orchestrated linkage system between prime corn producing areas in the South and poultry producing centers in the North;

4. Expanding the production area of hybrid seeds and making them easily accessible to feedmillers and poultry raisers.

Another practical way of reducing the cost of inputs is to develop and use locally available feed ingredient substitutes such as ipil-ipil leaves, cassava, shell grits, molasses and sorghum.

The promotion of better management skills, particularly among contract growers should be the concern of both the government and the private sector. In this regard, seminars and workshops should be conducted to improve on this skill.

Quality requirement is another important area of concern by the government through the enactment of proper laws or control of feed medication with the cooperation of feedmiller, and the private integrators through the establishment of quality control laboratories meant to routinely monitor their product output.

Government should likewise increase its budget on research and development while integrator should put researches into use in their respective operation.

C. Needed Policy Reforms

The following policy reforms are outlined in the "Corn, Swine and Poultry Development Plan" formulated by the Philippine Department of Agriculture in order to spur the development of the poultry industry:

1. Transport, Shipping and Infrastructure Policies

a. Reallocation of funds to construct, rehabilitate and repair barangay roads in areas which are important services of grain supplies, rather than concentrating funds in areas of high population density.

b. Review and revocation of regulations containing growth and competitiveness of land transportation.

c. The abolition of non-essential pilotage, wharfage and handling fees and the institutionalization of competition in the provision of port handling services.

d. Revocation of policies and regulations of private commercial ports.

e. Removal of onerous restrictions in the importation of vessels, spare parts and port equipment.

There is likewise a need to directly address the lowering of grain shipping costs and improving transport sector efficiency.

2. *Trade Policies*

Tariff rates on industrial products which are inputs to agricultural production should be lowered to levels at least at par with world market prices. In particular, tariff rates on imported feedstuffs, feed supplements, breeder stock, veterinary drugs, etc. should be brought down to levels comparable to what other countries are imposing. The Department of Agriculture should continue to enforce phyto-sanitary restrictions on all livestock and meat imports, considering the liberalization of chicken meat imports.

3. *Public Expenditure Policy*

The government must increase its investments in irrigation. research and extension to provide increased income and employment in the rural sector.

4. *Incentives and Taxation Policy*

More agricultural activities must be included in the Investment Priorities Plan in order to attract more private investments into agriculture. With regard to the value added tax (VAT) system, the VAT for processed agricultural products must be based in the value added instead of the total

value to make the system equitable for both industry and agriculture.

5. Exchange Rate Policy

The peso overvaluation makes feed livestock export products less competitive in the international market. This must be corrected by allowing the peso to seek its own level.

6. Market Intervention Policy

There is a need for the institution of a consistent, universally communicated and understood policy on grain importation which would price imported grains at levels commensurate with the costs associated with the provision of grain to major consuming areas.

D. Institutional Requirements

There are a number of public and private institutions which are responsible for the development of the poultry sector. Some are more directly involved with the industry and with clearer mandates to serve and provide assistance ranging from research, extension, teaching and training, professional services, management and regulatory and lobbying. To be able to provide a wide scope for assistance and greater impact to the sector, these public and private institutions need to cooperate, coordinate, and compliment each

other, more than they do at present.

The existing organizations in government involved in the development of the livestock and poultry sector are the Livestock Development Council (LDC), National Meat Inspection Commission (NMIC), and the Bureau of Animal Industry (BAI). LDC sees the policies and coordinates the programs and projects among agencies and the private sector for the development of the livestock and poultry sector. BAI is responsible for animal health and breeding services, feed and feedmill regulations and operation of auction markets. The NMIC is concerned with consumer welfare through its supervision of abbatoirs and meat inspections.

The major private sector organization involved in the poultry industry are the Philippine Livestock and Poultry Development Foundation, Inc. (PLPDF), Philippine Poultry Industry Association (PPIA) and the Philippine Association of Feedmillers Manufacturers, Inc. (PAFMI). These groups are very active participants in the improvement of the poultry sector.

We cannot discount the indispensable role of both the private sector and the government in the realization of the potentials of the industry. While businessmen in the poultry sector muster all their resources to answer the need of Filipinos for more meat simultaneously with the need to earn foreign exchange through export, the government is envisioned to provide the environment conducive to the growth of the industry. With the private and government sector putting their acts together harmoniously, we can expect a better poultry industry to serve the Filipino people and constitute advancely to the Philippine economy.

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Table 1. Per Capita National Income, Per Capita Meat Consumption and Population, Philippines, 1972-1990

Year	Per Capita Income (in 1972 pesos)	Per Capita Meat Consumption (kg.)				Population ('000)
		Hogs	Chicken	Beef	Total	
1972	1,190					38,928
1975	1,308					42,258
1976	1,382					43,406
1977	1,426					44,584
1978	1,455	7.91	3.89	-	11.8	45,794
1979	1,496	6.49	2.91	-	9.4	47,037
1980	1,533	9.10	3.02	1.46	13.6	48,317
1981	1,555	10.99	3.29	1.47	15.7	49,526
1982	1,537	10.20	3.31	1.41	14.9	50,783
1983	1,502	10.71	3.28	1.15	15.2	52,055
1984	1,370	10.88	3.11	1.16	15.2	53,351
1985	1,279	9.11	2.71	1.32	13.1	54,668
1986	1,284	10.34	2.79	1.44	14.6	56,004
1987	1,316	11.00	2.95	1.51	15.5	57,356
1988	1,419	12.03	2.96	1.31	16.3	58,721
1989	-	13.31	3.11	1.47	17.9	59,987
1990	-	-	-	-	-	61,480
Growth Rate (%)						
1980-88	(2.22)	1.16	(1.57)	(0.29)	0.85	2.44
1980-85	(3.74)	0.07	(2.06)	(4.05)	(0.76)	2.47
1985-88	3.36	8.01	3.20	0.25	7.15	2.38

Sources: NEDA, Philippine Statistical Yearbook and Policy Analysis Division, Department of Agriculture

Table 2 Gross Value Added in Agriculture, Fishery & Forestry By Industry Group In Million Pesos, at Constant Prices of 1972

Year	Type of Production							
	Agricultural Crops							
	Total	Palay	Corn	Others	Livestock	Poultry	Fishery	Forestry
1972	16,135	2,749	1,012	5,195	1,756	724	2,689	2,010
1975	18,327	3,357	1,229	6,717	1,701	865	3,194	1,284
1980	23,662	4,169	1,447	9,310	1,841	1,633	3,876	1,386
1981	24,608	4,307	1,494	9,617	1,925	1,958	4,132	1,175
1982	25,378	4,489	1,522	9,921	2,017	2,192	4,254	983
1983	24,845	3,900	1,373	9,395	2,170	2,481	4,407	819
1984	25,409	4,201	1,470	9,893	2,162	2,589	4,329	785
1985	26,253	4,665	1,698	10,071	2,114	2,576	4,422	706
1986	27,110	4,899	1,798	10,378	2,283	2,547	4,551	654
1987	26,834	4,513	1,872	9,989	2,432	2,742	4,638	628
1988	27,793	4,741	1,938	9,870	2,666	3,055	4,834	589
1989	28,896	4,998	1,979	10,042	2,942	3,347	5,046	632
1990	29,620	4,808	2,121	9,898	3,180	3,662	5,358	593
Growth Rates (%)								
1980-90	2.3	1.4	3.9	0.6	5.6	8.4	3.3	(8.1)
1985-90	2.4	0.6	4.6	(0.3)	8.5	7.3	3.9	(3.4)

Source: National Statistics Coordination Board

Table 3 Livestock and Poultry Beginning Inventory, 1970-90

Year	In Thousand Heads					
	Carabao	Cattle	Goat	Hogs	Chicken	Ducks
1970	4,432	1,679	772	6,456	56,999	2,132
1971	4,556	1,795	924	7,050	56,512	2,352
1972	4,711	1,933	1,083	7,742	50,103	2,600
1973	4,937	2,099	1,248	8,627	49,965	2,906
1974	4,384	1,918	950	6,605	47,818	4,039
1975	3,278	1,827	995	6,647	46,745	4,071
1976	2,725	1,737	785	6,489	45,671	4,104
1977	2,897	1,723	1,104	5,696	45,289	4,228
1978	2,959	1,820	1,290	6,910	58,893	5,355
1979	2,803	1,833	1,374	7,445	49,321	5,338
1980	2,870	1,883	1,671	7,934	52,761	4,725
1981	2,850	1,942	1,696	7,758	57,724	4,783
1982	2,908	1,942	1,783	7,795	59,710	4,905
1983	2,946	1,938	1,859	7,920	62,255	5,419
1984	3,022	1,849	2,362	7,613	59,205	5,764
1985	2,983	1,786	2,191	7,304	52,098	5,276
1986	2,984	1,814	2,177	7,275	53,005	5,208
1987	2,868	1,747	2,016	7,114	52,930	5,139
1988	2,850	1,700	2,120	7,531	60,321	5,873
1989	2,826	1,666	2,201	7,775	65,921	6,426
1990	2,765	1,629	2,193	7,990	69,539	7,236
Farm Type* (%)						
Commercial	1	15	-	16	29	
Background	99	85	-	84	71	-
						-
Growth rate: (%)						
1970-90	-2.48	-0.38	5.55	0.58	1.12	4.73
1980-90	-0.28	-1.78	2.73	-0.29	1.37	3.31
1980-85	1.09	-1.17	6.83	-1.28	0.16	3.46
1985-90	-1.53	-2.12	0.25	2.03	6.37	6.7

* Average from 1988-1990

Source: BAS

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Table 4 Livestock, Poultry and Meat Imports, Philippines

	1987	1988	1989	1990
Meat				
Beef (mt)	-	5,186	9,660	4,232
Pork (mt)	-	2,901	3,976	888
Live Animals				
Cattle Fatteners (heads)	2,261	12,035	21,984	21,313
Hogs for Breeding (heads)	1,789	2,694	3,747	-
Chicks for Breeding (000 heads)	1,307	1,364	1,178	-
Hatching Eggs (000 pcs.)	11,100	6,441	1,875	-

1990 - preliminary

Source: Bureau of Animal Industry
Livestock Development Council
National Statistics Coordination Board

Table 5 Beginning Inventory of Hogs and Chicken
Philippines, In Thousand Heads

Year	BACKYARD Hogs	BACKYARD Chicken	COMMERCIAL Hogs	COMMERCIAL Chicken	TOTAL Hogs	TOTAL Chicken
1980	6,533	36,691	1,400	13,067	7,933	49,758
1981	6,153	38,608	1,605	19,116	7,758	57,724
1982	6,167	39,719	1,627	20,000	7,794	59,719
1983	6,479	42,041	1,500	20,181	7,979	62,222
1984	6,359	40,427	1,253	18,685	7,612	59,112
1985	5,998	39,342	1,306	13,060	7,304	52,402
1986	6,081	40,269	1,193	12,737	7,274	53,006
1987	5,920	40,461	1,117	12,787	7,037	53,248
1988	6,312	43,163	1,269	17,158	7,581	60,321
1989	6,677	47,105	1,231	18,816	7,908	65,921
1990	6,776	48,628	1,214	20,911	7,990	69,539
Growth Rate (%)						
1980-1990	0.36	2.86	(1.4)	4.8	0.07	3.4
Percent Share to Total (%)						
1990	84.8	69.9	15.2	30.1		

Source: Basic Data from Bureau of Agricultural Statistics.

Table 6 Agricultural Loans Granted, By Commodity (P million, in Real Terms, 1978 = 100)

	1985		1986		1987		1988		1989		Average Amount	Average Share	% GR
	Amount	% Share	Amount	% Share	Amount	% Share	Amount	% Share	Amount	% Share			
CROPS	5,140.3	76.86	5,290.4	74.13	5,773.2	77.09	4,916.6	66.76	4,701.4	66.82	5,164.37	70.68	
Rice	347.0	5.19	392.1	5.49	577.3	7.71	769.2	10.44	829.5	11.79	583.02	7.29	10
Corn	51.6	0.77	63.8	0.89	152.3	1.98	117.7	1.60	147.7	2.10	106.63	1.16	18.1
Coconut	1,448.6	21.66	846.4	11.86	828.7	11.07	906.0	12.30	344.4	4.89	874.82	10.21	(2.7)
Sugarcane	1,431.8	21.41	1,166.0	16.34	1,495.2	19.98	1,487.1	20.19	1,473.9	20.95	1,410.80	24.36	(1.7)
Others	1,861.3	27.83	2,822.2	39.54	2,719.6	36.34	1,636.7	22.22	1,905.8	27.09	2,189.10	27.67	7.9
LIVESTOCK & POULTRY	681.6	10.19	663.9	9.30	657.4	8.78	887.6	12.05	1,041.7	14.80	786.46	12.82	5.8
FISHERIES	374.1	5.59	713.0	9.99	731.9	9.78	1,141.3	15.50	952.1	13.53	782.48	9.01	17.2
FORESTRY	491.6	7.35	469.2	6.58	325.5	4.35	419.2	5.69	341.1	4.85	409.33	7.49	(0.7)
TOTAL	6,687.6	100.00	7,136.6	100.00	7,483.8	100.00	7,364.7	100.00	7,036.3	100.00	7,141.81	100.00	4.5

Source: Basic date from the Rural Finance Development Plan

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Regional Workshop on
the Role of Private Sector in Agriculture Development and in the Poultry Industry: Impact Analysis and Policy Issues

22 – 25 September 1992
ASEAN ADPC, Bangkok, Thailand

SINGAPORE

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THE ROLE OF THE PRIVATE SECTOR IN THE DEVELOPMENT OF THE POULTRY INDUSTRY: IMPACT ANALYSIS AND POLICY ISSUES

SUMMARY

The private sector in Singapore is capable of building up a successful and thriving poultry industry, given the right economic climate and sufficient technical assistance from the Covernment. In the seventies and early eighties, Singapore was able to be self sufficient in eggs and 75% self-sufficient in poultry meat for a population of 2.5 million and a tourist population of 3 million.

A small island, on its way to becoming an industralised country, has little room for conventional farming which needed large areas of land. This paper presents how Government policies can encourage the growth or completely wipe out an industry. Being a less pollutive industry and with the need to maintain some level of local production, poultry industry was allowed to remain but as commercial farms. High density is expected on these farms and ultimately biotechnology, in whatever form, is to further enhance the productivity of these farms. Whether such farms can ultimately survive depend on whether they can be competitive with imports. The farmer must ensure high productivity to reduce his production cost. Govt policies must be tailored to assist the farmer in this aim, otherwise he has no way to compete with neighbouring countries which have lower investment costs, cheaper land and labour and weaker currencies.

INTRODUCTION

Singapore is a small tropical country, an island of 586 hectares and 2.7 million people. It has no natural resources except for its people. The government rightfully chose industralisation as the backbone of its economy after independence. That decision has more or less determined the fate of agriculture in Singapore.

Due to limited land mass and the growing land competing industries, agriculture in Singapore has always been of low profile and confined mainly to pig and poultry rearing, a very low level of fish farming and vegetable cultivation. Agriculture's contribution to the country's GDP in the past 20 odd years had never been greater than 2-3% and in the past 10 years, had trended even lower to below 1% (Table 1).

The livestock industry consisted basically of pigs and poultry rearing. Land limitation as well as ethnic habits precluded large animals such as cattles and goats from being farmed although there is a small population of cattle and goats (few hundreds) to cater to a small niche market for fresh cow and goat milk.

Singapore was self sufficient in pork, eggs and about 75% self-sufficient in poultry meat in the seventies where poultry as a subsector accounted for 35-40% of the GDP generated by the agriculture sector. Pollution issues sealed the fate of the pig industry which had to wind down in stages and the last pigs were slaughtered in late 1990. Singapore is currently wholly dependent on imports for its supply of pork.

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The poultry industry was fairly primitive in the early sixties. Farms were small and management poor and traditional. Although most layers were kept in cages, meat birds (layer x New Hampshire males) were mostly kept on semi-intensive or extensive small holdings of 500 - 2,000 birds. Most layer chicks were imported. Small breeder operations supplied the meat bird chicks.

All these while, the pig and poultry industries were undertaken by the private sector, mainly settlers from China who brought with them traditional farming techniques. There were not much Government intervention or assistance in production or marketing, thus any introduction of new techniques, management, breed etc had been done through exchange of information, hearsay, believes between farmers within and between countries.

THE POULTRY INDUSTRY: POLICY AND PROGRAMME REVIEW

In 1968, the Government, with UNDP aid and funding, set about to improve the pig and poultry industries. With production and disease experts from UNDP, the government set up a Pig and Poultry Research & Training Institute (PPRTI), improved and expanded its laboratory services and vaccine production expertise. A meat technology laboratory was also set up to look into further processing of meat.

The poultry section at PPRTI conducted applied research to determine parameters most suitable for tropical poultry production. A Random Sample Test Unit was also set up to identify for the layer and broiler industries, breeds which gave the best performances under local conditions. Children of farmers could also receive training in modern farming techniques at a resident farm school at PPRTI.

Hybrid broilers were introduced and farmers taught the intensive system of rearing broilers. The government estimated it would take 10 - 15 years before producers and consumers would fully switch from meat birds to broilers. That transformation took less than 10 years as the private sector was quick to recognise the economic benefit to them. They were assisted by the adverse reaction of the consumers then to stilboestral implants which needed to be used on meat birds to obtain faster growth.

The Random Sample test was a great boon to farmers as they were able to obtain information on appropriate breeds which they promptly stocked their farms with. As a result, bird productivity, both in terms of egg production (180 eggs/HD in the sixties to 260 eggs/HD in the seventies) and growth rate

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(1.8 kg at 110 days in the early '70s to 1.8 kg at 56 days in late '70s) were greatly improved in a relatively short time span.

Extension work was also implemented where modern intensive farming methods, management, house design and better disease control, vaccination programmes were introduced. Farmers were sceptical of such information at first, but as demonstration units proved the points, coupled with the economic uplift in the country through industralisation, farmers saw a chance to expand their operations. Farms become larger, better planned and bigger farms adopted better systems of control and recording to help in their management.

Supportive industries and services such as feed mills, good diagnostic lab with fast diagnosis, vaccine selection and control were all in place to help the industry grow. Marketing was through middle men systems and prices were left to market forces, but as there were healthy competition, prices were kept at reasonable levels.

The broiler population grew from about 15 million per year in 1970 to about 32 million per year in 1980. This provided the country with about 70% of its poultry meat requirement, with the remaining 30% imported mainly as chicken parts (wings and legs). There was one processing plant but it was unable to compete with cheaper imports on parts.

Egg production more than doubled in the same period although layer population only increased by half as a result of using more productive breeds. Singapore was self-sufficient in eggs then. The breeder farms, though not many were able to supply local broiler and layer day old chick needs, as well as to export some chicks to neighbouring countries. The poultry industry was

healthy, growing and farmers were driving around in Mercedes Benz.

The above government supports came at the right time as the general economy, improved through industralisation, boosted GDP per capita from US$1,665 in 1973 to US$3,896 in 1980 an increase of 133%. The higher spending power of the population naturally led to higher protein consumption (Table 3), and with eggs and poultry being more readily affordable, the local poultry industry could expand without much reservations about competition from imports. The local consumers wanted fresh warm meat and such imports were then uncompetitive.

The euphoria of the farmers was short lived. Competing demands for land by industry, water catchment, public housing and infrastructural development put pressure on effective land usage. Farms were not considered as effective land users and as more and more farm land were earmarked for redevelopment, it was increasingly more difficult to relocate them. In 1983, the government took the decision that Singapore will not try to be self-sufficient in meat and egg supply and all farms affected by redevelopment will no longer be relocated. This led to a rapid decline in the number of farms in Singapore (Table 2). Affected farmers were given a flat, monetary compensation and had to change their trade. Although the poultry industry supplied jobs for only about 2% of the work force and many working on farms were foreign workers, nonetheless, it was traumatic for those with little education, many were already middle-aged and knew only how to farm all their lives.

The government announced that it is aiming at 35% self-sufficiency in poultry meat and 87% self-sufficiency in eggs. It will put aside 2,000 hectares of land

in 10 agriculture parks for 4-500 'high tech' farms (see Table 5). The parks are for livestock, aquaculture and horticulture. Farm sizes will vary from 2 to 20 hectares, depending on type of farm. Each farm has a tenure of 20 years except for horticulture whose tenure will be 3 years. Investiment per farm is expected to be between S$1 to S$10 million. To quote "initially the farms will grow conventional crops, livestock and fish so that foreign technology can be adapted to the local tropical environment. When production technology is perfected, biotechnology techniques will be introduced to improve productivity further".

The Primary Production Department (PPD) will be responsible for the development and management of the Agrotechnology Parks. The development of the high-tech farms and marketing of their products will be carried out by local and/or foreign investors. The government will provide infrastructure facilities such as roads, water and electricity mains and other supportive services.

The Economic Development Board (EDB), under its Small Industry Finance Scheme (SIFS), can offer loans at comparable interest rates to establish new business, modernise and automate plant and machinery, expand manufacturing capacity, diversify into new product lines. The amount of loan obtainable by a company under the small and medium enterprise (SME) (fixed asset not more than S$8 million) is S$5 million. Other incentives under SIFS are Special Interest Rate Scheme which provides loans at 3.5% interest rate for companies with equipment for substantial productivity gain and Investment allowance incentive of up to 30% of the machine purchased to offset against a company's taxable income.

Further incentive schemes available under EDB are as follows:

- Pioneer status if farm can show pioneering or new activities. The pioneer status allows a company to enjoy tax holidays for 5 to 10 years,

- Industrial Building Allowance Scheme. All EDB-approved specialised buildings or farm houses are allowed 25 + 3% depreciation for the first year and 3% for each subsequent year.

- Commercial farms may be granted double deduction for direct expenses on the R+D work on improved farming method or system.

- For companies exporting agrotechnology services to overseas, 90% of their off-shore income will be tax exempted.

- The Intech Grant. This grant is given to companies for the training of specialised manpower and covers up to 90% of the direct expenses with no paying back required.

The National Productivity Board (NPB) can provide management consultancy to improve SME's management skill.

The government also announced that it is adopting a free trade policy which allows free importation of meat and eggs from any country, subject to their meeting local veterinary health requirements. There is no trade protection of any sort for local farms.

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With the increasing need to improve environment and hygiene in food handling, the government decreed that by 1993, all poultry must be slaughtered and inspected in processing plants. Gradual phasing out of wet market slaughtering will be implemented from 1990. Specific sites for processing plants were provided for tender. Operators were allowed to have a trial period of operation but would need to have proper processing lines by 1993. Birds slaughtered must be date stamped from 1993.

THE PRIVATE SECTOR IN THE

POULTRY/BROILER INDUSTRY: ROLE & IMPACT ASSESMENT

The poultry industry in Singapore had always been in the hands of the private sector. Farms first set up by settlers from China were traditional - small, extensive. Birds forage by day and receive some supplement of corn, rice, copra mixture. Compound feeds were not available and never heard of by farmers.

In the late fifties, a couple of small feedmills were established. They had to start business by peddling their products in small ½ kg to 1 kg packets and educating, persuading farmers to try and use the compound rations. As the idea caught on, farmers were quick to see the benefits and results. More went into farming and existing ones expanded, moving into a semi-intensive or intensive system of management. The feedmills grew larger and more joined the scene. Although all the raw materials had to be imported, it was a thriving business and really gave the poultry industry the confidence to grow.

The poultry farmer, though very resourceful and resilient, kept to his traditional role of managing the farm only. He decided on breed to use, type of houses and amount of investment to put into the farm. Veterinary advice were available free from the Government and private feedmills. No farmer did any R+D except for simple comparative trials on feed, breed or drugs, and these were done usually at the behest of feedmills, breeders or drug companies respectively.

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Marketing of farm produce were left to middlemen. Farmers were unfamiliar with marketing and claimed they neither have the time nor resources to do both farming and marketing. Birds were sold live in wet markets and eggs were in addition, sold in shops and supermarkets. The middleman provided the transport to bring the produce from the farms to the retail outlets. They are shrewd businessmen, usually making more profit from the produce than the farmer. Nevertheless, they played an important role in the poultry industry. Ex-farm prices of farm produce had not increased as much as other consumer items over the years although retail prices have gone up. This is due in part to more efficient production at the farm level and partly to healthy competition between middlemen. The last 6-7 years have seen farmers getting more involved in marketing themselves, as a result of thinner margins and squeezing at times by the middlemen. The 'high tech' farmers have invested heavy capital in their farms and faced with low cost eggs from Malaysia, they have little choice but to try and cut out the middlemen, to obtain better profit and cash flow. It is foreseen that if future famers are to survive they will have to market their own produce as the current difference between the retail price and ex-farm price for eggs is 3 to 6 ¢ per egg depending on size whereas the margin to the farmer selling ex-farm is often ½ to 1 ¢ per egg (Table 4). Similarly if farmer makes 10 - 30 ¢/kg from broilers, the difference between retail and ex-farm price is 60 to 80 ¢/kg.

In the early seventies, with increasing demand for day old chicks, several feedmillers also went into poultry breeding operations. These require heavier investments and better expertise which the farmers were not confident of running. The feedmillers did their own marketing of day old chicks and were able, not only to provide the chick demand during the expansion phase of the poultry industry, but also to export to neighbouring countries. Two of the

bigger feedmills own research farms where applied research on nutrition, bird management and disease control were carried out. The results were either incorporated into their feeds where appropriate or disseminated by their teams of field veterinarians and sales staff to farmers as part of their after sales service.

By and large, up till the new government policy in 1983, the private sector, with technical assistance from the government between the late sixties and early seventies, built up a healthy thriving poultry industry.

As mentioned earlier local farmers are a resilient lot. With the introduction of commercial farm lots, those with the necessary finance took up the challenge of many unknown, unforeseeable factors/issues to continue in the only trade they knew best to do.

Six commercial layer farmers and one breeder farmer tendered for a total of 70.11 hectares under the first 800 hectares of agropark land released in September/October 1986. They had to fully develop the farm in 18-24 months, use automation and pay, for the first time, property tax on all farm buildings.

ISSUES AND PROBLEMS

The current free trade policy and the commercialisation of farming lots meant farmers would need to invest fairly heavily and be able to compete with imports. Singapore is surrounded by neighbours who have cheaper land, ample cheap labour and weaker currencies which favour exports. The Malaysian farmers foresaw a ready market in Singapore for their eggs when farm numbers in the latter decreased, and in between 1987 to 1989 many existing farms there expanded their operations 15-30%.

Timing is important in any business. Given the above scenerio and the time frame given for the 'high tech' farms to be fully developed, these farms met with poor egg prices when they came into production and the bigger operations had cash flow problems. It was felt that some degree of initial trade protection should be in place to give the farms a good start.

As the farms started up about the same time, good managers, production personnel and workers were difficult to come by. Although the government initiated diploma courses in poultry management to train up a core of farm production managers, the timing was a little late. The private sector is not optimistic that diploma holders will end up on the farms after their course.

In order to force the local businesses to automate and move up into higher technology level, the engagement of foreign unskill workers is not encouraged. A quota system is applied to each industry that is allowed to employ foreign workers. For farms, the quota is 10%. With full employment in Singapore and many factories offering better working environment, fixed working hours, clean work and good perks, few if any young Singaporean would work on a

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farm. It is almost impossible to fill the quota. Livestock cannot be entirely managed by machines as they are living things. If a farm is short of manpower, not only bird productivity will suffer, the machineries will also suffer through lack of proper maintenance.

The small market for poultry biologics and drugs is not a commercial incentive for drug companies to go through time consuming procedures to register or apply for import permits for products not already allowed in. Any new variant disease on these farms will cause repeated loses. A change in approach to allow importation of biologics is necessary if the farms are to thrive.

Although the government have many incentive schemes to assist the farmers, few of these schemes are made use of. Take the R+D double deduction relief. Most of these farms are family owned, non of the 7 farmers had any specialised knowledge in poultry husbandry, who can do R+D work? To employ capable scientists to assist is one solution. However, such scientists are few and far in between locally. Expatriates will cost too much, together with investment into R+D equipment and materials, it is a big IF whether anything would come out of it in the near term. The existing operation is already tough going, there may not be profits for a long time to come, so a double deduction relief is not really attractive.

The Industrial Building Allowance Scheme allows accelerated depreciation only for the first year. The total number of years allowed to fully depreciate farm buildings is 25. The land tenure is 20 years.

CONCLUSIONS AND RECOMMENDATIONS

There is room for poultry production in Singapore. The provision of commercial land for poultry farming is expensive, both for the government and the private sector. Maximising land use will be beneficial to both. It would auger better for the poultry industry as a commercial enterprise and it would increase per unit yield for the farmer, ultimatelty lowering his cost of production and meeting the country's need for meat and eggs. How can this be done? We will need to manage the environment, making it more optimal for poultry production. The environmentally controlled houses in temperate countries worked well because they have a cooler exterior which can absorb the heat generated by the birds. In the tropics we not only have heat, but also humidity to content with. Airconditioning is too expensive and will not work well during the rainy seasons when external humidity is almost at saturation point. Here is where government can help - provide funds for engineers to research into a system using insulation and air flow to reduce heat and humidity, to design a poultry house which can allow stocking density to double. Nutritionists can be thrown the challenge of formulating rations which generate the least endogenous production of body heat. There is already the presence of a naked neck gene in poultry. Perhaps biotechnologists can come up with a thin feathering gene, so that birds in the tropics can be more comfortable. These may all sound like science fiction, but they are plausible possibilities which can perhaps be joint Asean effort to research into.

Government in outlining policies must keep in perspective commercial implications and practicalities and be prepared to amend policies from time to time if an industry is to be encouraged to grow. Policies laid down should

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have sufficient capable manpower to implement, monitor and assist where necessary.

Table 1: Singapore's Population to GDP Figures

	1973	1980	1983	1987	1990
Population ('000)	2,185	2,282	2,406	2,554	2,705
Crude rate of Natural Increase %	NA	12.7	11.3	11.9	13.6
GDP at current prices (S$mio)	9,093	27,450	41,837	46,593	69,118
Agriculture & fishing GDP (at current prices S$mio)	245	345	377	242	194
Agri GDP as % of total GDP	2.69	1.26	0.90	0.52	0.28
Per Capita GDP (US$) (at current prices)	1,665	3,895	5,954	6,474	10,172
No employed in Agriculture	NA	17,000	12,000	10,000	6,000 (est)

Source: Dept of Statistics, PPD, ADPC

Table 2: No of Farms and Acreage

Year	Total No of Farms	Farm Land (hectares)	Total Chicken Population (millions)
1970	18,874	13,404	19.1
1973	16,504	11,953	26.1
1984	7,910	5,892	29.5
1985	6,168	4,718	21.4
1988	2,023	1,930	7.0 (est)
1995	500	2,000	13.1 (est)

Source: PPD Bulletin, Annual Report

Table 3: Meat & Egg Consumption in Singapore

Year	Chicken (millions)	Egg (millions)	Per Capita Chicken (kg)	Per Capita Egg (nos)
1973	32,775	395	15	181
1978	58,328	511	25	219
1979	60,780	503	26	213
1980	62,913	542	26	224
1981	70,378	522	29	214
1982	78,963	512	32	207
1983	77,454	514	31	205
1984	80,609	552	32	218
1985	78,228	557	31	218
1986	78,339	553	30	214
1987	84,433	587	32	225
1990	93,500	638	34	236

Source: PPD Bulletin

Table 4: Ex-Farm & Retail Egg Prices in Singapore

	(S$ct / egg)					
	Early '70s	Late '70s	1986	1988	1990*	1992*
Ex-Farm	8.3	9.2	10.0	7-9	9	10-11
Retail	11.0	12.0	13.0	10-12	11-15	14-18

Source: PPD Bulletin
* Estimates

Table 5: Projected Quantity and Value of Production in Agrotechnology Parks

Type of Activity	Nett Area (ha)	Projected Production	Estimated Value ($'000)
LIVESTOCK			
Broilers	80	12.0 m birds	48,000
Layers	110	574.m eggs	60,290
Ducks	92	6.0 m birds	41,860
Dairy Cattle	23	6.3 litres	6,325
Others	50		35,086
HORTICULTURE			
Vegetables	262	39.300 tonnes	98,200
Orchids	295	88.5 m stalks	53,100
Ornamentals	145		29,000
FISHERIES			
Ornamental Fish	312		74,880
Marine Aquaculture	367	17,600 tonnes*	203,200
Total	1,736		649,941

* Includes production from 170 ha of sea-based farms

Source: PPD Bulletin

Regional Workshop on
the Role of Private Sector in Agriculture Development and in the Poultry Industry: Impact Analysis and Policy Issues

22 - 25 September 1992
ASEAN ADPC, Bangkok, Thailand

THAILAND

The Role of Private Sector in Agriculture Development:

Impact Analysis and Policy Issues

by

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September 1992.

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The Role of Private Sector in Agriculture Development:

Impact Analysis and Policy Issues

1. Introduction

The agricultural sector has sustained a major role in the Thai economy in term of production , population and foreign exchange earning. In 1991, the agricultural sector significantly contributed about 16 percent of the Gross Domestic Product (GDP). About 63 percent of the labor force was employed in this sector. Thailand is one of the few countries in the world which has achieved self sufficiency in food production. Agriculture has also been a major source of export earning. Although the share of agricultural exports has been declining, the export of raw and processed agricultural products still accounted 48 percent of the total exports in 1991. In addition, the sector provides raw materials for the agro-industries sector whose share in total exports has increased significantly.

The Thai government has a long history of movement in agricultural development. In 1961 the First National Economic and Social Development plan was started in Thailand. The development efforts have been concentrated in agriculture since it has a vital role to the economy of the nation. Although development plan has been implemented since 1961 , some problems still exist , mostly in rural areas . The government attempted to solve such problems. However, it was found that the government could not by itself tackle the problems due to budget and manpower constraints. Hence, one of the key strategies in the process of economic development is the interest in

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participation of the private sector. This paper is attempted to analyze the role of private sector involvement and participation in the Thai agricultural development.

2. Review of Agricultural Development

The First National Economic and Social Development Plan was initiated on July 1, 1961, to serve as a means of accelerating economic progress in Thailand. Presently, it has been a period of implementation of the Seventh-Five-Year Plan. The summary of the past agricultural development content is broadly presented as follows:

2.1 The First Plan (1961-1966)

The stage of implementation of the First-Six Year Plan was divided into two phases. The first phase started from 1961-1963 and the second one from 1964-1966. In the First Plan period, the emphasis was mainly upon a programme to accelerate construction of the infrastructure. Several large multipurpose storage diversion dams, as well as large and medium scale irrigation reservoirs, were constructed.

Agricultural centers were established in the Central and the Northeastern regions of the country for the researh work on agricultural crops, fisheries and forestry. A number of agricultural research and experimental stations concerned with researches on rice and rubber; agricultural extension; and consequently crop, livestock and fishery development were established.

2.2 The Second Plan (1967-1971)

The Second Plan objectives in the agricultural sector were aimed at the acceleration and diversification of agricultural production as well as improvement of the quality of agricultural products and increase of farmers' income. The target annual growth rate for the agricultural sector was 4.3 percent.

The irrigation programme initiated during the First Plan was continued to implement in this plan. Major new irrigation systems were constructed. Specialized experimental stations were established to promote the cultivation of economic crops. Fishery projects included the promotion of deep-sea fishing by surveying resources and training fishermen in advanced techniques. The main features of livestock development programme was to accelerate breeding improvement and disease control. The forest control programmes emphasized forest protection and afforestation.

2.3 The Third Plan (1972-1976)

During the Third Plan, the main policy guidelines were directed to accelerate agricultural production and to promote exports of agricultural products. Attention was paid to the improvement of the socio-economic conditions of the rural poors on one hand and to the solution of the economic development problems. Agricultural development was assigned the higest priority. The efforts in agriculture were aimed at the acceleration of crop production and diversification as well as

the promotion and improvement of marketing system. The policy guidelines for fisheries was directed to increase production of coastal and deep-sea fishing. The accelerated production project was strongly supported. The forest projects included projects of forest resources survey, silvicultural research, watershed management research, wood technology research, forestry research, forest protection and forest management were undertaken to improve forest conservation and increase exploitable forest resources. In addition agricultural institutions were strengthened to play a much stronger role as representatives for farmers.

2.4 The Fourth Plan (1977-1981)

During the Fourth Plan period, attention in agricultural development emphasized on improvement of agricultural production and employment. Diversification of production in agricultural sector was encouraged through more intensive land and underemployed labor. At the same time, diversification of crop production away from six major traditional crops (rice, maize, sugarcane, tapioca, rubber and kenaf) was promoted to reduce risks from price fluctuation. In order to achieve the plan objective in raising the rural income level of the population in the agricultural sector, policy measures to regulate the prices of major crops were applied. It included the price support programme and buffer stock programme.

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2.5 The Fifth Plan (1982-1986)

In the past, Thailand experienced the over - utilization of the existing natural resources. The development of national economy depended upon the importation of previously inexpensive oil. The absence of adequate conservation practices was depleting the natural resources with the result that the production based on these resources was decreasing and imported oil at the beginning of the Fifth Plan was very expensive. These problems had been considered in the Fifth Plan. Therefore, the framework of restructuring the production sectors by reducing their dependence on a scarce natural resouce has been attempted. The programme of restructuring of agricultural sector emphasized on increasing productivity and improving efficiency. New cash crops had been introduced and facilities to extensively provide agricultural credit had been set up. In addition, the private sector was encouraged to invest in technologically advanced agricultural projects and to promote agricultural exports. The national land use policy had been revised to facilitate a more eqiutable distribution of land. Agricultural pricing was considered to create a conducive financial environment which would be fair for producers, consummers and distributors.

2.6 The Sixth plan (1987-1991)

During this period, the major objective of agricultural development was to raise farmers' income. However, given financial and resource constraints and under the changing international economic and trade environment, the programme were

emphasized on restructure agricultural production. It was expected the measure would reduce farmer' risks, unemployment and the increase in income of the rural people, the restructure of production was concentrated on diversification from traditional crops which have marketing problems to alternative production for export, import substitution, and/or agro-industrial products. In addition, the Sixth Plan also emphasized an increase in the production efficiency and quality of the products in order to reduce production costs and to enable competition in the world trade. Private sector was encouraged to participate in the development,and the promotion of integrated farming system which links agricultural supply with market demand was adapted. In this case, the provision for accurate information on production, marketing both domestic and export was necessary.

3. Performance of Agricultural Sector

Table 1 shows the important features of the Thai economy. The agricultural sector contributes over 20 percent of GDP prior to the Fourth Plan period and declines to 16 percent in the Sixth Plan. The non-agricultural sector accounts for over 75 percent of GDP and increases to 84 percent the Sixth Plan period. The performance of the agricultural sector from 1961 to 1976 experienced a relatively high rate of growth. The annual agricultural growth rate at constant prices averaged 6 percent between 1961 to 1976 and decreased to 3 and 4 percent from 1977 to 1986. However, during the Sixth Plan, the growth rate increased to 5 percent which was higher than the Fifth Plan. The

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reason is that during the early stage of the Sixth Plan export of new agricultural commodities increased at a rather high rate due to the cooperation between public and private sectors in finding more markets together with price advantage in the world market.

4. Concept and Definition of Private Sector

The government had considered that the achievement of agricultural development needs involvement and participation of the private sector. Hence, the government attempted to increase bussiness atmosphere for the private sector to participate in the development of the country. However, the term of private sector, in broader sense, includes ones who have the role in input supply, production process, output market and distribution, processing and research. In Thailand, the private sector who has such role includes individual farmer, cooperatives, farmer groups, lending institutions, private business and other non - governmental organization. The following section will discuss the role of some major organizations of private sector in Thai agriculture.

5. Overview of the Role of Private Organization in Thai Agriculture

5.1 Agricultural Institutions

Farmer organizations were formed with the purpose of solving problems of their occupation, increasing their standard of living, cooporating production and marketing and raising the bargaining power.

The formal farm organizations can be divided into 2 categories:

(1) Agricultural Cooperatives

The government formed financial cooperatives in 1916 and they were developed and become an agricultural cooperatives. Objectives of the development were to provide farmers services in marketing credit and agricultural extension. The agricultural cooperatives have been divided into three levels, namely, local, provincial and national levels. In 1991, there were 1,464 agricultural cooperatives which are almost tripled from 1975 with 1,007,637 of their members. It appears that the members comprise only 2.6 percent of the total agricultural population (Table 2). This indicates that farmers are not much interested in joining the cooperatives due to some difficulties of the operation of the cooperatives which will be discussed in more detial.

(2) Farmer Groups

Thai farmer groups have been developed from rice farmer groups which were formed informally to solve their own problems of production and marketing. Then the government considers to use farm organizations operating capital or investment capital cooperative share as a tool of agricultural development, and the government decides to support and promote the formation of the farmer groups. The Department of Agricultural Extension was set up in 1967 to carry out the implementation concerned with the farmer groups. The purpose of the formulation was similar to that of the agricultural cooperatives which was

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to turn farmers' production and marketing into corporation and increase their bargaining power.

In 1991, 3,646 farmer group associations was established with members. Total members were accounted for percent of the total agricultural population (Table 2). The evidence indicates that the farmer group associations are not much preferable among farmers due to problems in operating the farmer group.

Difficulties in Agricultural Organization Operation

1. Lack of Operating Capital

Sources of operating capital of farmers' group come from share investment, borrowings, resource and other. According to small size of the farmers group, most operating capital comes from borrowings rather than share investment.

2. Poor Management in Agricultural Business

Usually, the committee of the agricultural organization has less knowledge on business and management. Its business has been run ineffeciently. In addition, it confronts problem of corruption within the organization in which its members do not realize the importance of the organization. They do not understand the principle of establishment of a farmer group. Thus, the management monitoring is neglected which causes a committee to corrupt easily.

3. Economic and Social Problem of Members

Farmers who are members of the groups or cooperatives are poor. They often face problems of low commodity

prices and uncertain of climatic condition. Therefore, they have low quality of living and need help from outside. They feel that they do not have security on their occupation. If they can change their jobs, they will not want to be farmers anymore. These factors affect a cooperative of enterprise.

5.2 Lending Institutions

Agricultural credit is one of important inputs for farmers to obtain success in farming. Despite Thailand has a relatively well developed financial sector compared to other similar developing countries, it cannot provide credit to rural population sufficiently. Thus credit from informal sources has become much more important. However, based on the statistics of the Office of Agricultural Economics, the percentage of credit obtained from non-institutional sources have been on a decline because institutional sources especially commercial banks have paid more important role in agricultural development.

Main institution providing finance for agriculture and agro-industry are commercial banks, the Bank for Agriculture and Agricultural Cooperatives (BAAC), and the Industrial Finance Corporation of Thailand (IFCT). The three largest commercial banks, namely, Bangkok Bank, Krung Thai and Thai Farmers' Bank, which together account for over one-half of the total assets of all commercial banks, provide more than one-half of the total commercial bank credit for agriculture. In addition, Bank of Thailand is involved in influencing credit allocation for agriculture through its policies for mandatory allocation of

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commercial bank credit for this purpose.

Commercial Banks

The government has since 1975 set up credit policy by increasing role of the commercial bank in providing agricultural credit to farmers. It requires the commercial banks to allocate direct lending to farmers 5 percent of bank deposits and it was required to be increased to 20 percent in 1987. However, in 1987 the commercial banks were required to lend at least 14 percent to farmers and rural industries and the remaining 6 percent to agribusiness. In fact, the commercial banks had no problems to follow the government policy because they could provide the agricultural credit throughout the end of 1978. In 1979, the commercial banks had a problem of tight money. As a result, they could provide less than 1,000 million baht. Thus, the Bank of Thailand had decided to keep the target at 13 percent until 1986, thereafter it was increased to 20 percent in 1987. To support the policy of agricultural credit, the Bank of Thailand had given a permission for expansion of bank branches in the rural areas as needed with some condition of lending. These measures have resulted in better, it can access to more credit to the agricultural sector through the commercial banks. Table 4 shows that the commercial banks provided less than 1 percent of credit to the agricultural sector. After implementing the credit policy by BOT, share of the commercial bank lending to agriculture had been increased. It rose from 3,984 million baht in 1975 to 48,514 million baht in 1985. Furthermore, the result

of using this measure also affects share of agricultural lending to GDP which increased from 1.29 percent in 1975 to 7.63 percent in 1990. The share of agricultural lending to agricultural GDP jumped from 4.17 percent to 61.51 percent in the same period.

Bank for Agriculture and Agricultural Cooperatives (BAAC)

On the basis of the Cooperatives Act 1943, the government created Bank for Cooperatives. It was the major source of credit to farmers. The bank was developed and became the BAAC since November 1, 1966. It has responsibility in providing credit to farmers and farmer organizations over all the country with low interest rate.

Normally, sources of operating funds of BAAC come from deposits of public and commercial bank and borrowings aboard, Bank of Thailand and the government. The total operating fund grew at the rate of 13.72 percent annually during the past five years (Table 5). The most important source was deposits of the public, followed by deposits of the commercial banks which accounted for about 37 and 25 percent, respectively. However, foreign borrowings were the most important source of cheap credit. The most important source was borrowings from the Bank of Thailand which were used as subsidized funds. It grew at a low rate of 1.56 percent annually. The total resource of BAAC has not been sufficient to its demand. The BAAC has introduced a new form of saving certificates in 1985 in order to increase its resources. However, the success of the increase depends on the

flexibility of interest rate. The BAAC is an advantageous position because of its extensive network of about 648 branches and field offices, large farmer membership in different parts of the country, and significant potential savings available in the growing economy.

The Industrial Finance Corporation of Thailand (IFCT)

The IFCT was established in 1959 and involved in medium and long-term lending to industries on a project basis. Its lending to agro-industries accounted for about 15 percent of the total IFCT loans in 1960-80. The average size of loan was over 9 million baht during 1960-80. At the same time, IFCT has made efforts since 1984 to provide assistance to small scale industries with fixed assets of less than 10 million baht. It also reduced its minimum loan size for this purpose from 1 million to 500,000 baht. This led to an increase in the number of small projects.

Major source of IFCT's resources is foriegn borrowings which accounted for over 80 percent of its total resources. Whenever there is a shortage of domestic resources, IFCT cannot accept deposits while its debenture issues constitute only a marginal source of capital. It has started providing working capital finance on a selective basis, but that activity is fairly limited. It has few branch offices and operates in restricted field. Therefore the operation has some limitation based on its charter and institutional restrictions.

5.3 Private Business and Non-governmental Organizations

5.3.1 Commercial Chamber and Association

The government has realized that private sector has significant role in the economic development of the nation. Consequently, the government attempted to provide the cooperation between itself and the private sector. To facilitate such a cooperation and to see it operate efficiently, the government has thus issued 2 Acts, namely Commercial Chamber Act B.E. 2509 and Commercial Association Act B.E. 2509. The reason for issuance is to redetermine responsibilities and duties of the private business organization and it can incorporate with public sector efficiently.

Chamber of Commerce

Under the Commercial Chamber Act B.E. 2509, Chamber of Commerce has been established at provincial, foreign and national levels. Each province can set up one commercial chamber. The Chamber of Commerce for Bangkok is called Thai Chamber of Commerce. The role of Thai Chamber concerning agricultural activities is to approve certificate of origin, distubution of trade information and corporation with public sector on trade and economic matters. The Chamber is a member of ASEAN - CCI : Association of Southeast Asean Nations Chamber of Commerce and Industry. Which has its role to expand trade in the ASEAN region. This will affect the agricultural sector through international trade.

Board of Commercial Chamber is a Chamber

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established as commercial center. It is a central institution which includes many economic fields. It comprises Thai Chamber of Commerce, Foreign Chamber and Commercial Associations together with state enterprises and cooperatives as its members. The role of the Board concerning agriculture is to advise and corporate with the government in trade promotion. Hence, it works and corporate closely with the Ministry of Commerce.

Commercial Association

Commercial Association is established under the Commercial Association Act B.E. 2509. Its responsibility and duty is to promote business in each specific field or commodity which is different from the chamber of commerce. Types of a chamber are determined by topographic areas while types of a commeraial association by activities or commodities

5.3.2 Banking Association of Thailand

Banking Association of Thailand has been established since September 1958 aiming at corporation with the governmentto stabilize financial security and develop the national economics of the country. The role of the Association concerning agriculture is to regulate commercial bank activities, to set programs and projects and to cooperate with the government agencies and foreign banks on financial matters, such as determination of credit policy for agriculture, setting target of loans to farmers and bank guarantee for large agro-industries.

5.3.3 Thai Industrial Association

Thai Industrial Association has been registered as one of association of commerce since 1967. It is a center of enterpreneurs of industrial commodities to exchange their view and help each other. It has the role in developing the agro-industry too, namely, agricultural machinery industry, food industry, paper-pulp industry, rubber product industry etc. The Association is a representation of industry business to coordinate and advise the government on industrial matters concerned.

5.4 Non-governmental Oganization (NGO)

The Non-governmental Organizations are private non-profit, voluntary organizations which were established primarily for socio-economic development. Some have the role of rural development. The existing information has shown that most private development organizations are small. They were initiated by groups of people who have the same purposes and ideas eg. middle-class people or educated ones. The largest non-profit organization is the Population and Community Development Association (PDA) which has a full-time staff of over 600 located in 14 rural development centers and branch offices. The PDA has the role to promote the acceptance and practice of family planning aiming at the reduction of Thailand's population growth. Presently, it is found that there is considerable scope for governmental nvestment and non-profit activities to address the income distribution problem especially in the small area. Income gap between agriculture and non-agriculture has been

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widen. Thus, it is considered that increase in income level for rural people is needed. The development of business skills for people at the village level might be a way of increasing their income. However, it is recognized that both public and private sectors face some constraints. If there is collaboration between the two sectors, it might help to narrow the income gap. Therefore, the Thai Business Initiative in Rural Development (TBIRD) is designed to seek the investments and commitment of resources of the corporate sector at the village level. It is expected that TBIRD will help to establish a sound economic foundation in rural area.

Based on the study undertaken by SVITA Foundation on the role of NGO's in the national development, it was found that NGOs in Thailand are most active in the area of rural community development. Projects included under rural community development involved both social and economic development. Activities such as the setting up of rice banks, medicine banks, buffalo banks and fertilizer banks are common. In addition, NGOs' works are expanded into small scale water resource development including village fishery ponds and integrated farming. Presently, there is sharp increase in interest in the issues of environment and natural resources. The NGOs has begun to promote the concept of sustainable agricultural development.

In their operation, the NGOs do not much emphasize on material and services support but more on knowledge, information and skills. The approach is considered as basic tool for the people's self development. Training, information dissemination

and technical assistance such as seeds, fertilizer and construction materials, and financial assistance, mostly in a form of revolving loan fund are common components of NGO rural development programs.

On the basis of the experience gained and the lessons learned from NGO's operation in Thailand, the study suggests that the NGOs could effectively play their roles in the national development :

1. As the communicator providing feedback information on the problems and needs of the people as a reflection to the government as well as presenting a different perspective on the same development issues.

2. Providing supplementary services. As the number of welfare-oriented NGOs towards development activities increases, their resources mainly come from within the country and could be mobilized to strenghten the government development efforts. Furthermore, there is a increase in social responsibility on the part of the private business sector. This could lead to additional resources for the development since the resource from the private business include not only financial but also expertise in management and marketing. It would help to facilitate the achivement of the development objecttives.

3. Seeking for and undertaking new development initiatives. In the arrangement of pilot projects and development models in order to test and develop new approach and strategies for more effective development accomplishment by the government. This role can be operated seperately or in cooperation with the

government and/or the business sector. As the government has its role on research and development, the NGOs could play a role in enhancing the technology transfer into the rural areas and in assessing the appropriateness of the technologies to be promoted by the government.

4. Active participation in policy formulation and planning. NGOs are seen to have a capacity to provide inputs to the formulation of policy and the development plan, particularly in the areas where rural people will be largely affected.

Difficulties of Participation of Private Sector in Agriculture Development

In the past, the government had a major role in agricultural development by providing basic infrastructure, research and resources. However, according to the shift of world situation it is considered that the development in agricultural sector needs private sector participation. The public sector has been constrained by the budget, manpower, farm technology transfers and market access. Thus, the private sector may be able to alleviate this problems by investing in agricultural business.

5.5 Future Directions and Policy Issues of Agricultural Development

Under financial resource constraints and under changing international economic environment, the Thai government has been forced to search for alternative ways and means to

increase farmers' income. Thus, the prospects for agricultural development seem to indicate the promotion of agricultural production diversification. To diversify agricultural production, it is necessary to investigate the country's potential in production, marketing and processing of agricultural commodities. Criteria used in the selection of the commodities includes :-

a) potential for export;

b) potential for import substitution;

c) potential for value added processing; and

d) linkages to agro-industry.

To identify and promote such commodities, the private sector play major role since entrepreneurs can indicate market and farmers will respond to market incentives. The government will have a limited role to play in selection and promotion of commodities. The role of the government should focus to facilitate and remove current distortions and constranits which prevent an efficient growth of the production.

It does not surprise that the diversification and shift from low to higher value commodities needs more modern cultivation techniques since planted areas is no longer a widely available option for increasing output. Therefore, an increase of land productivity should be taken into account. Key elements in achievement of productivity in creases with the involvement of the private sector will be as followed.

a) <u>Adaptation of improved seed</u>

The private sector has potential for seed

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production. The role of both sectors should be clarified. The government might play role in the research and production of improved stock seed and the private sector might have responsibility for seed multiplication and distribution with adequate certification to ensure quality standards

b) Agricultural Credit

An important consequence of the greater use of modern inputs will involve greater cash outlays by farmers. The access of agricultural credit from formal institutions must be improved. However, the improvement of land titling is needed so that farmers can meed the legal requirement of commercial banking for lending.

c) Risk Reduction

Thai farmers always face problem of fluctuation in prices and the production depends upon climatic condition. Therefore, their production and income are involved with high risk. The greater use of cash inputs by farmers in the context of fluctuation prices would result in increased risk at the farm level. To reduce risks contract farming between farmers and private enterprises is promoted. This will be a way of allocating the risks of production and marketing between the firm and farmers. The firm offers a price guarantee based on the quality of products. Under contract farming, firms could provide inputs of production such as seeds fertilizer and pesticide. In some cases, firms could provide credit to farmers in form of agricultural inputs and obtain its repayment directly when they

purchase their products. In addition, private firms might provide transport, marketing and extension services together with transfer of technology to farmers. The provision of such services will be beneficial to the firms to obtain better quality products.

Table 1 Share and Growth rate in Agricultural Sector between Plan 3-6

	Plan 3 (1972-1976)		Plan 4 (1977-1981)		Plan 5 (1982-1986)		Plan 6 (1987-1991)	
	Share	Growth rate	Share	Growth rate	Share	Growth rate	Share	Growth rate
Agriculture	24.88	5.26	21.50	3.41	19.67	4.45	16.18	5.07
-Crops	15.92	6.01	13.68	4.53	12.76	3.85	10.03	6.09
-Livestock	2.50	6.17	2.51	4.81	2.44	7.04	2.38	7.57
-Fishery	1.76	-0.13	1.34	-3.78	1.08	3.80	0.95	-1.95
-Forestry	1.45	4.42	0.96	-4.23	0.59	0.82	0.32	-24.29
-Ag-services	0.93	7.46	0.82	1.31	0.62	0.14	0.49	0.32
-Simple Agricultural processing products	2.31	3.15	2.19	3.90	2.18	7.50	2.02	6.69
Non-agriculture	75.12	-	78.50	-	80.33	-	83.82	-
GDP	100	6.82	100	6.36	100	5.61	100	11.78

Source : The National Economic and Social Development Board (NESDB)

Table 2 Number of Co-operatives, Farmer Groups and Members on December 1991, 1983-1990

Year	Farmer groups			Agricultural Co-operatives			Fishery Co-operatives			Land sett
	Number of group	Number of members	%	Number of Co-operatives	Number of Members	%	Number of Co-operatives	Number of Members	%	Number of Co-operati
1983	3,820	514,875	1.55	984	816,664	2.48	20	4,281	0.013	85
1984	3,817	490,794	1.47	1,007	816,402	2.46	20	4,557	0.013	90
1985	3,832	484,297	1.43	1,031	821,894	2.45	20	4,403	0.013	91
1986	3,862	485,953	1.45	1,059	837,434	2.47	19	4,121	0.012	93
1987	3,885	487,139	1.41	1,089	851,224	2.46	19	4,127	0.012	93
1988	3,922	489,194	1.40	1,157	883,694	2.53	22	4,322	0.012	93
1989	3,931	489,572	1.39	1,253	902,515	2.55	22	5,128	0.014	95
1990	3,953	490,674	1.38	1,357	955,603	2.68	25	6,039	0.017	95
1991	3,646	505,687	1.41	1,464	1,007,637	2.81	26	6,236	0.017	94

Source : 1. Co-operative Promotion Department-

2. Agricultural Extension Department-

3. Office of Agricultural Economics

Remark : % percentage share to agricultural population

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Table 3 Target of Agricultural Credit and Lending of Financial Institution 1975-1991

Unit: million baht

ar	Target					Lending					Difference	
	Farmers	%	Agri-business	%	Total	Direct to farmers	Ag-bonds	Deposit at BAAC	Total	Agri-business	Farmers	Agri-business
)	4,333	5	-	-	5	2,234	-	1,671	3,904	-	- 429	-
;	6,139	7	-	-	7	3,811	-	3,161	6,972	-	832	-
	9,647	9	-	-	9	5,892	-	4,528	10,420	-	773	-
,	11,771	9	2,616	2	11	8,099	-	5,511	13,611	6,382	1,840	3,766
	17,332	11	3,150	2	13	9,970	-	6,330	16,300	7,756	-1,022	4,606
	19,209	11	3,492	2	13	11,553	1,230	7,000	19,783	9,962	575	6,470
	23,649	11	4,300	2	13	14,457	1,230	7,804	23,491	9,932	-159	5,634
	28,294	11	5,144	2	13	20,140	1,096	8,405	29,642	10,706	1,348	5,562
	35,330	11	6,424	2	13	28,613	765	8,806	38,184	13,410	2,854	6,986
	44,341	11	8,062	2	13	35,915	657	9,534	46,106	17,804	1,765	9,742
	53,820	11	9,785	2	13	37,829	-	10,685	48,514	23,642	-5,306	13,857
	60,348	11	10,972	2	13	40,087	-	11,113	51,200	27,240	-9,148	16,268
	86,932	14	37,256	6	20	55,864	-	12,340	68,204	48,953	-18,728	11,697
	104,111	14	44,619	6	20	73,211	-	14,118	87,329	58,406	-16,782	13,787
	123,809	14	53,061	6	20	105,893	-	14,486	120,379	70,433	- 3,430	17,372
	157,246	14	67,391	6	20	142,053	-	14,503	156,556	81,638	-690	14,247
	200,579	14	85,963	6	20	178,100	-	14,513	192,613	95,656	-7,966	9,693

Source : Bank of Thailand-

* June 1991-

Table 4 Share of Commercial Bank Lending to Agricultural Sector to Gross Domestic Product originating from Agriculture

Unit:million baht

Year	Lending to Agriculture	Total Lending of CB	GDP at current prices	Ag GDP at current prices	Commercial bank lending to Agriculture as % of Total Lending	GDP	Ag GDP
1975	3,904	82,899	303,319	81,521	4.71	1.29	4.79
1976	6,972	96,377	346,516	92,460	7.23	2.01	7.54
1977	10,420	122,810	403,529	99,970	8.48	2.58	10.42
1978	13.611	160.878	488,226	119,638	8.46	2.79	11.38
1979	16,300	198,363	558,861	134,148	8.22	2.92	12.15
1980	19,783	224,317	658,509	152,852	8.82	3.00	12.94
1981	23,491	258,117	760,195	162,987	9.10	3.09	14.41
1982	29,642	306,788	820,002	156,839	9.66	3.61	18.90
1983	38,184	411,963	910,054	185,628	9.27	4.20	20.57
1984	46,106	481,852	973,412	175,190	9.57	4.74	26.32
1985	48,514	529,504	1,014,399	169,895	9.16	4.78	28.56
1986	51,200	549,203	1,095,368	178,140	9.32	4.67	28.74
1987	68,204	671,781	1,253,147	205,592	10.15	5.44	33.17
1988	87,329	866,862	1,506,977	250,384	10.07	5.79	34.88
1989	120,379	1,126,034	1,775,978	266,379	10.69	6.78	45.19
1990	156,556	1,494,062	2,051,208	254,523	10.48	7.63	61.51

Source : 1. Bank of Thailand

2. NESDB

Table 5 Resources of BAAC

Unit : Million of Baht

Source	1986	%	1990	%	GR %
Commercial Bank Deposits	11,113	31.82	41,514	25.59	6.22
Foreign Borrowings	7,808	22.36	9,985	17.6	6.53
Bank of Thailand	6,348	18.18	4,896	8.63	1.56
Pablic Deposits	7,118	20.38	20,971	36.97	31.74
Own funds and others	2,536	7.26	6,362	11.21	28.50
Total	34,923	100	56,728	100	13.72

Source : BAAC

A STUDY ON ROLE OF THE PRIVATE SECTOR IN THE DEVELOPMENT OF THE POULTRY INDUSTRY : IMPACT ANALYSIS AND POLICY ISSUES

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Agricultural Development Planning Centre

A STUDY ON ROLE OF THE PRIVATE SECTOR IN THE DEVELOPMENT OF THE POULTRY INDUSTRY : IMPACT ANALYSIS AND POLICY ISSUES

UNDERTAKEN FOR

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September 15. 1992

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PREFACE

This report sets out to identify the Thai poultry (Broiler) industry within the framework of ASEAN/ADPC's term of reference.

The key topics are related to country's poultry development, role of private sector, government policies and programs affecting the industry, and impact assessment.

Detailed study has been prepared by the assigned consultant (The Agricultural and Industrial Development Consultants Co.,Ltd) to use available secondary information and a limit number of field survey in carrying the study.

It is believed that the study may contribute to reduce industrial constraints as well as to increase a certain degree of success in promoting cooperation among ASEAN private sectors in related agricultural fields and activities in future.

1. EXECUTIVE SUMMARY

Poultry industry became a major business which contributed strong economic impact and employment to many other related agricultural sectors and industries in the country. With substantial amount of its growth rate of the industry. it helped to stabilize growth rate of agriculture sector as a whole. while the private sector has played an active role of industrial development for the last three decades.

However. the poultry industry is still facing number of constraints in high cost of production due to fluctuation of raw materials and breed import required. In general. Thai poultry production cost is far higher when compared to People Republic of China and Brazil. Finished product of frozen chicken for export is depended largely on Japan market up to 90%

The study indicates that the absence of grand parent and parent stock in the country causes the industry to continue breed import. Proper research to promote breed stock development should be encouraged in order to provide durable solution of high production cost.

Development of Thai poultry industry is moving into maturity stage. If the country seeks to be self-sufficient in future production and better marketing prospect. certain solution and action plan must be strictly followed to overcome problems regarding to the expansion of the export market. Research and development of breed improvement for high desirable performance. and establishment of cooperated measure among concerned parties should also put into consideration.

2. INTRODUCTION

Thailand is geographically located in an advantage area of agricultural production in either planting, fishery or livestock. During past three decades, the agricultural development and its growth rate has been substantially increased at satisfactory level. The growth of agricultural sector has provided a significant improvement in life standard and income generation for the rural population.

Along with other progress development in the fields of transportation and communication, technology transfer has been introduced as the instrument to improve country economics. Traditional production of agricultural products has, therefore, shifted to higher level of commercial production, as well as more product derived in agro industry. The development brought faster growth rate of country's economy. Todate, agriculture holds the most important key to the economic development of Thailand in term of providing the largest share of employment, as well as one of the major sources of foreign exchange earning.

Within sub-sectors of livestock, poultry industry is one of the country's major contributions as it can earn large amount of foreign exchange. Most of the industry improvement is being carried out by private sector. The study, therefore, will concentrate on the role of the private sector on promoting the growth of poultry (broiler) industry. An overview of the industry, government policies, role and impact including issue and problem will be presented and discussed in the further paragraphs.

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3. THE COUNTRY'S AGRICULTURE DEVELOPMENT IN LIVESTOCK

Prior to 1973, Thailand's livestock, feed grain, feed supply and level of technology development had been considered as a slow developed period with small-scale production for domestic consumption. In 1973, the beginning of 3rd national development plan livestock development began to be active in subsector of dairy, swine and poultry along with the introduction of new technology, modern method of animal raising and food processing. Poultry development during the past 20 years (1972-1992) seemed to lead other subsectors of swine and dairy in term of share of livestock and export earn (Table No. 1).

Post development indicated that private sectors had been eucouraged by the Board of Investment (B.O.I) to enlarge family scale to industrial scale production as well as to invest in other related businesses. Favourable incentives granted to new investors by B.O.I had resulted in stretching poultry industry as one of healthy agroindustries in the country. Along the line with sub-sector of poultry industry development, modern technology transfer in the areas of farm management, feed production, importation of new breed both broiler and layer for breed improvement, slaughtering, and food processing had been introduced.

This results in enlargement of segment sharing of country's economic development contributed to agricultural sector (sub-sector of livestock). Recent large volume of frozen chicken (Table No.2) and fresh egg export (Table No.3) annually indicates rapid growth of the industry as well as to create related business opportunities (see Figure No. 1). Co-existence of these related development can be widely observed in increasing number of business activities both up stream

(feed mill and crop production), down steam (slaughterhouse and food processing), supportive supplies and services. One of the important roles played by private sector in the development of poultry industry can be obviously seen from the out-standing past record and recent Thailand's major exports in 1991 and 1992 (Table No. 4). The statistics indicated that frozen fowl export in 1991 was one of the top twenty export commodities at total value of Mil Baht 10,275.7 (US$ 411 mil), sharing a segmentation of 1.4% of total foreign earn.

4. THE STRUCTURE OF POULTRY (BROILER) INDUSTRY

Country's poultry industry may be defined as multi-activity cooperation and mutual support between raisers and feed suppliers, while their affiliate associations under the Federation of Thai Industry umbrella (Figure No. 2) act as voices between the government and the raisers or feed suppliers. The industry is a core dynamic drive of many related economic activities of both forward and backward linkages when campared to other sub-sectors of industries. Those main components of Thai poultry industry can be categorized into five sub-sectors as follows:-

- Poultry raising system
- Feed production
- Veterinary supplies and services
- Food processing plant
- Poultry marketing system

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4.1 Poultry Raising System

Early poultry raising activities or sub-sectors of poultry production has been developed from family scale-raising of native breed. Followed by new application of modern method in breed improvement and shortening of raising period. The small scale raising has further developed to larger industrial scale up to complete integrated circuit operation. Of 5 main activities, farmers seem to engage only in raising. while two or three sub-divisions of each feed supply company are engaging in supporting production, supplies of breed, animal feed, and veterinary. Meanwhile. other sub-divisions of each same company are engaging in food processing and marketing to support the raising programmes. Raising system of poultry appears to be classified into two categories as :- Broiler chick producers and Broiler raisers.

4.1.1 Broiler Chick Producers

Early survey made by Department of Livestock in 1980 indicated that there were 31 modern parent stock farms in the Country with a total capacity of 4.5 million head a week. Todate, number of parent stock farm has been increased up to 40 with a total producttion of 7 million head a week. The producers of parent stock farms are devided into 2 groups:- one is a group of full integrated business companies which also operating feed production and another one is a group of large scale producers. Within first group there are 6 full integrated companies namely:- Chareon Phokaphan Group (C.P.), Laemthong Sahakarn, Centago. Betago, Srithai Livestock and Por Chareonphan, sharing 70-80% of total country production. The rest 20-30% of the production is operating by the second group of 25 large scale producers.

Country poultry industry is depend largely on import of breed stocks. Both grand parent and parent stock are steadily imported with an increasing number annually from 1.3 million head in 1987 to 1.8 million head in 1991 (Table No. 5). Among many breed imports, the most popular breed is likely to be the Arbor Acers breed found in 30 out of 40 parent stock farms. Its unique performance of better heat-tolerence and low feed conversion ratio (1.74) has resulted in widespread of its distribution throughout the country.

The system of poultry raising in the country is the system of non-self sufficient in breed stock as shown on Figure No. 3, it is expected that future import price of grand parent (GP.) and parent stock(PS.) will cause high cost of production on poultry meat produced in 1-2 years ahead. Amount of breed imported into the country during 1987-1991 has been consecutively increased at average 3.96% per year (Table No. 5). These breed stocks have been managed to supply throughout the whole poultry industry. Recent import breed stock were used to produce approximately 568 million head of chicken in 1991 (Table No.6), and 1992 is expected to reach 720 million head, which is excluded a production loss from severe diseases and environmental pollutions.

4.1.2 Broiler Rasiers

Traditionally, broilers have been originately raised in the Northeast part of the country; consequently, raising promotion programmes had been introduced by a private animal-feed company during last 20 years. The programme was being provided with supportive outlets of production centers and feed mill in the Central and the Western Regions. Nowadays, these new two promoted areas (included of provinces around

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Bangkok) are considered as highest density area of raising activity such as:- Ratchaburi, Nakorn- Pathom, Suphan Buri, Chachoengsao and Chon Buri. Each farm maintains a minimum capacity of 10,000 broilers, employing modern raising system and management, and operating either independently or under contract farming with integrated business company or agent.

In 1977, independent broilers raisers in the Central-Region constituted about 26% of total country production and then declined to 17% in 1981. This portion of independent farm tends to decrease due to a high 5 risk of production cost and finished product price fluctuations. Most of 83% of contract raisers are depended on animal-feed companies for supportive supplies ranging from material inputs to marketing. Normally, these contract raisers are binded with the integrated business companies or agents, either by verbally or in written agreement on supplies, services and purchasing conditions.

Generally, three types of contracts either price guarantee, income guarantee or hire-raising are being practiced in broiler business in order to secure raiser's income. These three types of farming contracts, therefore, help to eliminate the marketing and price risk faced by raisers since breeding, feeding supplies and finished broiler market are in guarantee.

4.2 Feed Production

The animal feed industry was first introduced in the country some 35 years ago. At the initial stage of poultry development, private sector engaged in small scale operation with labour intensive and low technology application. Since 1967, the industry has been gradually

gaining status of becoming one of important sub-sectors. As the result of livestock rearing has been spreaded larger in central area, the Board of Investment had started issuing promotional privileges to investor in the animal feed industry in 1969. Recently, there are 45animal feed mills in existence of which 39 are under BOI promotional status. Of 45, 8 leading manufacturers are involving in full integrated circuit in manufacturing, supplies and related services. These leading companies are:-

1. Chareon-Pokaphan Co.,Ltd.
2. Krungthai-Animal feed Co.,Ltd.
3. Laemthong Sahakarn Co.,Ltd.
4. Centago Co.,Ltd.
5. Betago Co.,Ltd.
6. Saha Farm Co.,Ltd.
7. Sri Thai Livestock Co.,Ltd.
8. Lee Animal Feed Development Co.,Ltd.

The animal feed industry may be described as a quasi-oligopoly group of industry. Plant distribution of feed manufacturing units is rather concentrated by 81% located near Bangkok. During 1983 - 1989, production output of animal feed had been increased at average rate of 8.7% annually, e.g. output of 2.8 million tons in 1983 compared to 1.5 million ton in 1989 (Table No. 7). Of total production, chicken and swine feed account for 62 and 32 percent respectively whereas the rest of 6 percent is produced for other livestocks (duck, cattle, and marine)

Processing Mixed Feed derived from mills is divided into ready Mixed Feed of 85-90% and Feed Essence including Permix Feed of 10-15% by

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volume. Ready Mixed Feed is produced in the forms of grain and pellet consisting of complete nutrients such as protein, fats, vitamins and mineral. Feed ingredients have been mixed in appropriate proportion and can be used instantly.

Feed Essence cannot be used directly due to absence of carbohydrate, it is mainly consisting of protein, fats and minerals. Normal application of feed essence is to mixed with maize, broken rice or sorghum prior to feed the animal. Premix Feed is essentially vitamins and minerals used as additives feed being mixed by the farmers themselves.

During the early period of feed production, animal feed processors seemed to concentrate mainly on production rather than market distribution. Product distribution had been managed by local merchants without setting up marketing division within the company. Few years after a series of new plants had been promoted by B.O.I office, marketing was highly competitive which also was a cause of business loss, thereafter, each manufacture began to readjust their marketing techniques.

Details of animal feed marketing will be further discussed in the section of an overview of the exporsure of the private sector.

4.3 Veterinary Supplies and Services

Business of veterinary supplies is in picture when the growth of livestock production became one of important activities. Absence of domestic veterinary producer left ample room for import products to be

serviced in Thai market. Most of veterinary supplies are imported in the form of pure raw materials and will be further mixed or reprocessed mixed prior to be sold to domestic agency. Total of 73 local and foreign companies are engaging in the business, mainly in Bangkok area. Generally, each company will devide market zone into 4 geographic regions:- North, East Coast, Central and South.

Each zone will be sub-divided into different number of major areas depending on capability, type of products and animal density. For example, many veterinary supplies subscribed as Antisurface, Antibiotic, Salfa and Vaccine are mainly used in the broiler production. Generally, cost of veterinary supplies in broiler production accounts about 2.7% of production cost or 0.35-0.40 baht per kg. Therefore, it can be estimated that Thailand had to pay about 210-240 mil baht a year for 600 mil head of broiler production in 1991.

4.4 Slaughterhouse and Processing Unit

In fact, facility outlet for poultry slaughtering of Preserved Food Organization (A government enterprise) in Rachaburi Province had served the the livestock sub-sector for many years prior to existence of new slaughterhouse promoted by B.O.I. In 1972, a new modern poultry slaughterhouse and processing plant had been established by Bangkok Livestock Co., Ltd.(under C.P. group) who also initiated the export market. Next 5 years (1997) after C.P group, Saha farm had established the second processing plant.

In 1983, a number of chicken processing plant was increased to 8 factories operated by 7 private companies. Todate,there are 13 private processing plants with a total capacity of 900,000 head

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or 1,620 ton a day. Along with those companies, C.P. Sara-buri and Saha Farm share the top highest capacity of 120,000 head a day. The latest new venture, Golden Poultry, has just been invested with the lowest capacity of 20,000 head a day (Table No. 8).

In view of local marketing, manual slaughtering is also practiced by middlemen in Bangkok and other major provinces. For Bangkok area only about30 dealers are in the business and can be found in sub-district of Klong Teoi (Soi Aree) and Klong Ton area.

4.5 Poultry Marketing System

Finished poultry market is devided into 2 types : independent and con-ract market. On contract markets, agreements will be made between buyers and raisers prior to actual raising taken place. Buyers are usually the animal feed companies of large integrated business operation. These companies will act as salesmen to supply veterinary and feed to raisers on credit term. Finished broilers will later be sold back to these salesmen. The raisers will receive the balance of payment with subtraction of veterinary and feed supplies cost. Marketing network of contract raisers is summarized in Figure No. 4.

Marketing systems of independent raisers is likely more flexible when compared to contract farmers. The raisers may sell their products in many ways; such as by selling broilers to the retailers, local merchants, or middlemen. The study indicates that more than half (64%) of the independent raisers sale the product directly to merchants in Bangkok. The rest of producet will be sold to local merchants, company's agents or retailers about 25, 6 and 5% respectively. The merchants will inturn send the animals to slaughter-

house for further processing (Figure No. 5).

5. OVERVIEW OF THE EXPOSURE OF THE PRIVATE SECTOR

Key significant role of the development of poultry industry involved by private sector can be clearly seen in 4 major different activities :- animal-feed industry, breed improvement, development of farm pattern, and export marketing expansion, while the government plays a role involving investment promotion, imposed policies,regulations and programmes.

5.1 Animal-Feed Industry

Parts of ample domestic crops supplies of raw materials used in feed production are mostly domestic crops and by-products available in the country such as maize, soybean meal and ricebran. Thus, feed production helps increase in value added of crop products as well as to improve the farmers'life standard. Feed grain demand by the sub-sector of feed supplies has indirectly helped to escalate other related business activities as well, such as fertilizer, seed treatment, insecticide.

Naturally, price of grain and raw materials required by the industry has always been fluctuated from season to season. This caused high production cost from time to time for feed manufacturing, whilst, price and protein content of finished product of animal feed are subject to goverment control. New application of feed ingredient or formula substitution by computer technology has helped to develop least cost of feed at acceptable protein content. Meanwhile new application of additive substrates such as vitamin and mineral known

as "premix" used in small amount but it is considered as nutrition rich. was widely promoted and imported by animal drug companies. Usage of synthetic amino acid such as lysine was also tested and applied for better feed quality.

These new development and technology progress along with the promotion of B.O.I has resulted in increasing number of animal feed industrial plants in the past. Due to high competition in the market and large capital investment involved, marketing of animal feed has been changed from direct retial agents to contract farmers or agents. A new marketing technique called "Package of Technology" was introduced to the raisers. This complete line of arrangements made by animal feed company starts with the selling of animal breeds, feed, medicine, rearing equipment, as well as the providing of veterinarians.

Varied contract agreements between animal feed processors and livestock rearers are generated as aiming to create marketing certainly for the company, besides to serve as the instruments for rearing broiler chicken and product price guarantee. These methods of contracting will serve two purposes : firstly it assures a built-in market for chicken feed for the producer and secondly it promises the raisers a ready market for grown chicken at a guarantee price.

The advantages of contracting also allow the company to have better control of broiler production quantity and quality. However, the system looks likely to be a monopoly system as product price are determinded by only the integrated business companies. As the animal feed market is a competitive one among few large manufacturers with strong financial capability. It is left no room with difficulty for a new manufacturer to venture into the industry.

5.2 Breeding Improvement

An important role of government to exempt import duty for grand parent and parent stock has resulted the private sector to engage in breeding improvement. For example, of 8 full integrated business companies, 2 leading companies engaged in research and development of certain breed which normally found in the country namely, Arbor Acers, Hubbard, Ross and Gegal breeds. Recently, Arbor Acers breed accounts the highest market share in poultry industry. Its feed conversion ratios of 1.74 and 2.06 for 6 and 8 weeks of broiler ages (Table No. 9) is an advantage inherent compared to other breeds. It appears to be one of successes of breed improvement in the industry for the past 10 years.

Eventhough breed improvement has been developed and a cycle of broiler production takes shorter period (45 days for 1.8 kg life weight). A problem of weather condition especially in summer still be an important factor affecting mortality rate of birds. Effort research on breed selection emphasizing on heat-tolerant inherent is still a constraint in the industry and it is an interested subject among researchers both in government and private sectors.

5.3 Improvement of Farm Pattern

Besides Arbor arhor Acer breed improvement. a knowledge of proper farm management,proper feeding, hen house and hatching arrangement have been tought to the contract raisers by animal-feed companies.

In the presence of rising price of the energy. higher labour cost and land limitation for producing crop or animal. the

replacement of labour intensive manual system to semi-automatic system by supportive equipments and tools has been evidently applied in Thai farming during the last 30 years. Automatic feeders and other laboursaving machines have been introduced into poultry industry for years. Presently, few men needed for daily raising of 100,000 broilers in modern farm instead of old raising method.

A development of pen pattern was also promoted in order to optimize land utilization. Three applications of broiler pens are widely built in raising farms, first type is to build pen above fish pond, second is opened-air-double floor type and third is closed-air (Evap.) type. These patterns have helped in less space requirement for animal raising.

In fact, the pattern to build broiler pen above fish pond was first developed in the country before the others. Besides, heat reduction effect by water and better air circulation for poultry raising, advantage of first system is an effective usage of by-product for fish raising. However, batch density has to be controlled in appropriate size to assure less pollution of waste water.

In comparison of these three systems, the Evaporative system has been mainly built for breeding farm, its advantages are temperature, rodent-free and insect-free controlled, thus results in much better productivity. It is believed that the system will be widely accepted by broiler farmers due to lower total cost per bird and effective land utilization. Normally, any system can be managed to increase double raising capacity when compared to traditional system. Invested budget for broiler farm, comparing between opened & Evap. pen is shown in Table No. 10.

5.4 Export Marketing

In 1973, frozen chicken was first exported by Bangkok Livestock Co., Ltd. and other 2 Japan companies with the total amount of 135 tons. Consequently, Japan has been the largest export destination of Thai chicken meat for years. Presently, Japan still remains the biggest market with total import of 137,305 metric tons in 1991, which accounts 85 per cent of total export of Thai frozen chicken (Figure No. 6) Extensive export market has been one of important role play by 13 leading private sectors (see Table 8). Todate, the sector is able to produce chicken meat up to a million head per day. Most of the poultry produced by these manufactures are exported to overseas market.

Presently, Thai private sector is planning to penetrate into new export markets of frozen chicken such as Australia, Canada and Middle-East countries. Forcast of export in 1992 is estimated at 40% of total production, mostly in the form of frozen chicken meat. Some parts of chicken carcass which cannot be exported such as necks, top wings, feet and viscera will be sold to domestic market or dispatch to rendering plant.

Two main factors involving export growth rate of Thai chicken meat can be observed as factors affected by importer and exporter.

<u>Factors affected by importer</u>
- Change of domestion production in each country
- Growth of economic and political change in protectionism

- Export and import policies by the government.

Factors affected by exporter
- Increasing production cost
- Quality of product
- Export competitors
- Government policies

6. GOVERNMENT POLICY AND PROGRAMMES

Growth of broiler industry has been accepted as one of the industries mostly promoted by the private sector. The concerned government agencies also participates in the role issuing number of regulations and policies affected to the industry as a whole. Government policies and their effects are summerized as following.

6.1 Production Policies

6.1.1 Specification of feed standard

The Animal Feed Quality Control Act was enacted in 1973. The Act was first amended in 1982 and again in 1984. Recently, control of feed quality is applied to raw materials needed for manufacturing Feed Essense, Ready Mixed Feed and Premix Additives. This strict quality control has ensured better quality and standard of feed product appeared in the market.

6.1.2 Price control on animal feed and crop

In 1989. any producer desiring to increase their product prices must obtain prior approval from the price control committee under Ministry of Commerce by submitting their requests together with production costs, expenses, method of processing and distribution methods. A strict price control will eliminate a monopoly of price determination practiced by private sector. Besides, the government also applies certain regulation on range of price levels of necessary crop products sold at Bangkok market as following (baht/kg):

	Min	Max
Maize	3.10	3.80
Fishmeal (> 60% protein)	14.00	16.00
Soy bean	7.50	9.50
Soy-bean meal	8.10	10.10

6.1.3 Controls of imports on feed raw materials

In 1989. imports of fishmeal, soybean meal, and maize were allowed freely. but it is subject to notify the Ministry of Commerce for all transaction. It was later decided in 1990 to levy a 6 percent import tax and a possible surcharge on these materials so that the price of raw material from abroad will not much cheaper than that of local product. Recently, the surcharge of soybean meal and fish meal imported are levied at 1,031 and 1,786 baht/ton respectively. Maize import is subject to exemption of surcharge. This regulation is affecting the rise of feed price in recent year.

6.1.4 Duty free and tax refund

Ministry of Finance has lifted all import duty for breed including tax refund for all raw materials needed in the chicken meat production for export. This will help reduce the production cost in poultry industry.

6.1.5 BOI promotion

Promotional privileges had been provided to the poultry industry, with condition that each promoted company must have a minimum capital investment of at least Baht 1 million for poultry farming and Baht 10 million for slaughterhouse and processing plants, excluded land cost and working capital. Also, all finished products needed to be exported except viscera, blood, bone,feather, feet and wings which are allowed to sell domestically.

B.O.I promotional privileges had been first granted to the animal feed industry in 1969. After 9 years of promotion (1978), the B.O.I has suspended promotional privileges to manufacturers of mixed feed for chicken, duck, and swine in Bangkok and neighbouring provinces. The exception of promotion can be granted for animal feed ventures outside the specified areas, and the minimum capital investment must not less than Bath 10 million , excluded of land cost and working capital. This outside Bangkok promotion has encouraged continue growth of medium and large scale industries in provincial areas.

6.2 Marketing Policies

6.2.1 Export duty free and tax refund

In 1982, Ministry of Finance allowed all chicken meat to be exported freely without export duty fee. Besides, tax refund of 0.07% for the producers under B.O.I. promotion and 1.58% for the producer not under B.O.I. promotion have been enacted to reduce the production cost of frozen chicken meat export.

6.2.2 Meat quality and slaughterhouse inspection

Pre- and post-slaughtered animal needed to be inspected for disease and quality control by the official veterinarian. Method of processing and equipments are needed to meet the export standard and requirement. Finished product must be accompanied by product certificate issued by Department of Livestock to ensure wholesomeness of meat product suitable for human consumption.

6.2.3 Main trading partner

Under Ministry of Commerce past effort and negotiation with Japan, it resulted the government of Japan to reduce import duty from 14 percent to 12% of Thai frozen chicken import into Japan. Meanwhile, Thai representatives officers in foreign country are now trying to explore new export market for Thai chicken meat. This important role of government may stabilize for future market.

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7. IMPACT ASSESSMENT

Overall poultry industry together with evolution of new technology and the introduction of feed mill during 1963-1975 had not been clearly seen neither as the effect of change in traditional raising nor substantial development in other related sectors. In view of investment and income generation in urban areas, the industry has shown proven record since 1976, when raising period has been shorten to 45-55 days, commercial scale raising became widely spread into many provinces in central area of the country such as Nakorn Pathom, Chacheongsao, Cholburi and Nakorn Nayok. Early study indicated that in 1973 there were 36.4 mil head of poultry, and raising activities had been increased at average of 30% during 1976-1978. Between 1979-1985, raising number had been reached up and down between 185-205 mil head per year. Resently in 1991, raising numbers has reached up to 569 mil head and number of 720 mil head is likely to appear in 1992. (see Table No.6)

In view of general impact of the industry to national interest and other related sectors, it can be clearly seen that the industry has created a wide range of economic contribution covering new investment and development of agricultural, agro-industrial and service sectors. These key assessment can be described in term of :-

- Favorable climate for further or new investment in related fields
- Create large volume of new employment in related fields
- Substantial Foreign earn since 1967
- Stabilize growth rate of agriculture sector
- Increase Value Added of raw materials (Grain)
- Transfer of latest technology in livestock and food processing

On contrarily, the industry often appears to have certain degree of negative impact on environment to the community such as :-

Feed mill	-	Traffic congestion due to fleet of transportation trucks loaded with raw material for feed mill (Bangkok case)
Feed mill	-	Create dust and waste pollution in nearly community
Slaughterhouse	-	Release of improper treated waste water to the public
Open-air raising pen	-	Create odor, stimulate rodent growth

8. ISSUE AND PROBLEM

Although, the country's industry has the advantages of available lower labour cost and better production skill resource compared to some other Asean countries. Certain problems inhibiting the growth of broiler industry still cannot be solved. These problems are relating to production and marketing which will be described later in the following chapters :-

8.1 Production Problems

Production problem seems to be a permanent problem for Thai poultry industry which may be further affected export growth in the future :- e.g. absence of country self-sufficient of grand parents and parent stock and high production cost.

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8.1.1 Absence of self-sufficient in breed stock

The country depends on import both Grand Parent (G.P.) and Parent Stock (P.S.) for broiler production. This causes a part of huge trade deficit or loss of national income. Hence, the government should encourage private sector to engage in grand parent and parent stock breeding in the country. If G.P. and P.S. stock production is promoted in the country, it is expected that at least, a number of breeds imported in the level of parent stock in the future should be reduced or slightly increase in the lower rate compared to the past.

8.1.2 High production cost

- High raw material cost

Firstly, One main reason that causes high cost of raw material is a series of reduction of crop planting area in the country which mostly faced by severe drought. The problem can further accelerate more inflow of raw material imports by the industry. Secondly current tax surcharge adjustment made by the Ministry of Commerce has been increased from 0.6% to 6% for maize and an increased import surcharge on fishmeal from 886 to 1,786 baht per metric ton. The two import products may cause the high price of animal feed in the future.

Few possible solutions to solve a high cost of raw material are firstly, Thai government should promote more production of soybean and maize in sufficient amount for feed industry by improving production yield. Secondly, the government should reduce the import duty on raw feed materials especially on maize, soybean meal and fishmeal in order to reduce production cost.

- Veterinary supplies

Eventhough broiler farm management has been much developed for years, some diseases still exist in broiler farm, notably in rainy season. The problem has caused lots of production loss due to lower growth rate and higher mortality rate of animal. Also, most of veterinary supplies for broiler production needed to be imported, thus causing loss of national income and higher production cost.

Regard to veterinary supplies and services, effective vaccination including a knowledge of medical care for disease should be more concentrated by the farmers through government support. To solve portion of high production cost, the government should reduce or lift current import duty (30%) on veterinary supplies. Condideration to readjust certain rules and regulations will help to promote the growth of broiler industry.

8.1.3 Weather condition

The country is located in the tropical region with a long high temperature period. It was indicated that most of broiler raisers suffer with a high mortality rate caused by hot weather, especially in summer (March-April). Weather problem in raising pen has been solved by reducing batch density, providing water spray and skip feeding in the afternoon. However, hot season, causes animal consuming feed intake less than other seasons. Thus, a necessary research aiming to produce the most economic and effective feeding formula that optimally combine nutritional and environmental factors for selected breeds of poultry should be promoted.

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It can be concluded that improvements in breeds of birds (more heat tolerance breed) and a study to increase nutrient density or diet concentrations, especially energy, crude protein will help to improve the efficiency of poultry production in tropical areas.

8.2 Marketing problems

8.2.1 Domestic

Most of broiler raisers are contracted by full integrated companies providing all necessary supplies and services needed in broiler production. There are substantial number of independent farmers with out bargaining power to determine or negotiate product prices with buyer. It can be observe that broiler market in the country is definitely controlled by the contract buyers. Such market condition made difficulties for independent raisers and government agencies to control product prices.

Considering to price level of finished poultry on part of raisers, production demand is affected by product price which further depends on market demand both domestic and export. Price level also has been occasionally influent by investment and operation cost of feed manufactures. If an excellent price of product sold appears in any period (more profit margin) it will automatic accelerate rate of the production. However, if the production exceed demand, total volume of production itself will face a negative feedback, effect of low price, thus forcing the price to fall downward.

This phenomena occurs as a repeated cycle in the industry, whenever the supply is over demand.Price of broiler product is usually fluctuated (Table No. 11) in a year-round due to a short cycle of broiler production (approximately 45 days). Generally, price of broilers will rise above normal rate at the beginning of January to March, when many festivals taking place. At the end of March through April, price will be decreased due to the weather turning to hot season. Farmers will try to sell their product as fast as possible since they fear loss of profit.

However, prices of broilers during first 6 months in 1992 appeared steadily which is different from such normal phenomena mentioned earlier. However, price fluctuation is also depended on a number of other factors. For examples, the short supply of other forms of meat (shortage supply of pork during Feb to May 92) and less export situation can affect the amount of demand which will in turn affect broiler price.

Price fluctuation of finished broiler often causes a high production risk for raisers, especially in small-scale farms. Therefore, the government should encourage raisers to be organized in group in order to increase their bargaining power and to reduce the cost per unit of production. The farmers themselves should pay more attention on co-operative farming system having a large operation through financial support of agricultural financial institution. Such group participation will eventually reduce production risk under situation of price fluctuated.

8.2.2 Export

An important export outlet for Thai poultry is Japan, as it accounts for nearly 90 % of all poultry exports overseas. Japan is likely to be a monopolistic market affecting broiler meat production as well as domestic price in the country. This is a disadvantage for the future market of the industry. Regardless of high production cost and higher import duty applied by Japan government. Thailand is offering a higher price of product to Japan market.

Since most of Thai chicken exported is in boneless form with high import duty whereas the products from other competing countries are in whole carcass or cut up with bone with less import duty, therefore, the import duty faced by Thai chicken is higher than others. Thai higher production cost is due to higher feeding cost in the country as mentioned previously, the problem has lead to higher price of product import into Japan when compared with products from People Republic of China and Brazil.

Consider to Middle East market, the problems of high transportation cost and a lack of vessel service are waiting to be solved. Meanwhile the European Community (EC) market has adopted the limitation of sluice gate price or import control price and normal levy. This import regulation has affected the price of Thai chicken meat to be less competitive and higher than EC price. Besides, an additional charge of levy will be applied if the exporters from abroad offer the price lower than a standard price. All these regulations are disadvantages for Thai exporters to penetrate into EC market with cheaper products.

It is clearly indicated that export problems of Thai chicken meat are mainly caused by an international trading policy and growing of protectionism of each import country. Price of exported product seems to be the most important criteria for trading determination. Therefore, the government policy is considered to be a final impact on this problem. It is recommended that a direct contact or formal policy discussion between the government of each trading partner will be the best way to reduce the problem. A private sector itself has realized and organized the Association of Broiler Producer for Export to corporate and control the proper price.

9.CONCLUSIONS AND RECOMMENDATIONS

Private sector has played an important role of poultry industry development for three decades. The result of development has been a certain degree of success in :- productivity, meat quality improvement, modern method of processing and attractive packaging. However, private sector should pay more attention on higher productivity in order to reduce production cost. Breeding selection and feeding formula adjustment required in hot season are in front line for further research and development.

Role of goverment sector should be upgraded and readjusted to take wider active role. Consideration should be made in all necessary areas such as the government should undertake action to promote contract farming in the areas of population with less income with integrated business companies. The promotion includes expansion of international market for frozen chicken, which will help utilize the industry's surplus capacity and minimize the internal price fluctuation.

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With regards to the improvement of chicken business, the government, should promote public awareness about the proper format of contract farming and market contract. This will create fairness to all parties. To prevent any monopolistic operation by the private sector and to promote free business competition.

The regulations imposed by Thai government such as import surcharge of raw materials, export quotation of grains, quality control of processed meat products and promotion of crop planting for raw feed materials are also needed to be reviewed. As the major concerns affecting the poultry industry in the future. The Commerce Ministry's policies should involve directly to adjust appropriate measures in order to encourage more export of poultry meat.

Also, an arrangement of proper co-ordination among the governments and private sectors concerned in poultry products urgent action needed to serve industry interests must be stressed to solve the existing problems. If the government plays an active role in this activity, it is foreseeable that the future contribution of poultry industry in the economic view of Thailand will be greater in few years ahead.

The country is clearly on the threshold of becoming more agro-industry oriented country in Asia with high potential for continuous growth in export. This should provide excellent opportunities for food investment in the years ahead. In view of poultry industry, chicken consumption appears to be ahead of other sub-sectors of livestocks.

If bright outlook of chickent meat industry is expected in future, certain constraints and problems needed to be resolved as follows :-

1. Thai poultry industry is in absence of G.P. and P.S. breed promotion and development, the government should work out the durable solution through cooperation with private sector for country self-sufficient on breed stock.
2. Country export of chicken meat depends largly on Japan market. Effort to expand market into other high potential targets such as Canada, Australia and the Middle East should be promoted.
3. In the area of productive efficiency, rate of high mortality must be reduce to lowest level through continuous research and development.
4. Government should adopt policies and regulations to establish fund to promote breed stock production and to enlarge growing area of feed crop. Established fund can be managed by deduction a small part of each amount of surcharge recieved from grain import.
5. New product development made of chicken meat in other forms together with overseas market penetration effort should be performed.
6. Seeking cooperation amoung ASEAN member countries in related fields concerning group bargaining.

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Table 1 : Value Added, Growths and Shares of Chicken Meat : 1987-1990

Unit : million baht

	1987	1988	1989	1990 *
(1) GROSS DOMESTIC PRODUCT	1,253,147	1,506,977	1,775,978	2,051,208
Real Growth Rate (%)	4.9	9.5	13.2	12.0
(2) LIVESTOCK	22,448	24,623	28,582	32,006
Real Growth Rate (%)	5.8	5.9	8.9	7.5
(3) CHICKEN MEAT	14,823	15,125	18,875	17,636
Real Growth Rate (%)	-11.1	1.8	20.8	-11.6
(4) SHARE OF LIVESTOCK,(%)	66.03	61.43	66.04	55.10
(5) SHARE OF GDP,(%)	1.18	1.00	1.06	0.90

ource : National Income of Thailand, NESDB, Office of Prime Minister.

ote : * = Estimated value

Table 2 : Volume and Value of Thai Frozen Chicken Meat Exported : 1973-1991

Year	Volume Tons	Changing rate	Value Million baht	Changing rate %
1973	135.4	-	5.3	-
1974	337.4	149.2	14.4	171.7
1975	372.5	10.4	8.9	-38.2
1976	2,210.8	493.5	65.3	633.7
1977	4,254.5	92.4	157.5	141.2
1978	9,286.5	118.3	33.7	111.9
1979	14,158.2	52.5	516.9	54.9
1980	18,503.1	30.7	656.2	26.9
1981	26,768.9	44.7	1,186.6	80.8
1982	33,216.5	24.1	1,130.0	-4.8
1983	22,925.9	-31.0	946.3	-16.3
1984	34,216.7	49.2	1,419.7	50.0
1985	37,840.3	10.6	1,468.1	3.4
1986	64,796.0	71.2	3,121.3	112.6
1987	81,971.0	26.5	4,023.0	28.9
1988	96,263.0	17.4	4,901.1	21.8
1989	109,615.9	13.9	5,068.7	3.4
1990	138,968.0	26.8	7,591.1	49.8
1991	164,153.0	18.1	8,946.3	17.9

Source : Customs Department

Table 3 : Volume and Value of Eggs Exported from Thailand : 1980-1990

Year	Duck Eggs		Hen Eggs		Total Value (1,000 baht)
	Ton	1,000 baht	Ton	1,000 baht	
1980	246	3,324	464	8,668	11,992
1981	120	2,586	1,978	43,790	46,376
1982	5	112	1,699	37,098	37,210
1983	24	537	974	23,008	23,545
1984	234	4,529	7,545	143,359	147,888
1985	116	2,691	8,038	174,662	177,353
1986	116	2,361	7,381	141,299	143,660
1987	245	5,177	7,964	144,779	149,956
1988	513	21,480	4,109	78,746	100,226
1989	496	26,257	3,269	69,865	96,122
1990	562	30,492	5,338	129,917	160,409

Source : Agricultural Statistics of Thailand,
Office of Agricultural Economics.

Table 4 : Thailand's Major Exports : 1991-1992

Unit : million baht

	1991		1992	1991	%
	Value	Share	Jan-Mar	Jan-Mar	
1.Garments	86,690.6	12.0	19,584.5	18,005.2	8.8
2.Computer and parts	46,570.4	6.4	11,761.3	12,083.5	-2.7
3.Gems and jewelry	35,653.9	4.9	8,323.1	7,962.4	4.5
4.Rice	30,513.5	4.2	9,699.9	7,578.1	28.0
5.Frozen prawns	26,629.7	3.7	6,104.8	5,814.2	5.0
6.Integrated circuits	25,780.1	3.6	5,846.1	5,900.0	-0.9
7.Canned seafood	25,656.4	3.5	5,345.5	5,870.4	-8.9
8.Tapioca products	24,902.6	3.4	6,722.7	6,061.7	10.9
9.Rubber	24,630.6	3.4	7,191.8	6,970.7	3.2
10.Footwear and parts	23,805.0	3.3	6,685.8	6,126.9	9.1
11.Fabrics	15,382.9	2.1	3,802.4	3,005.7	26.5
12.Sugar	14,781.5	2.0	5,916.4	7,015.1	-15.7
13.Video and sound recorder-players and parts	14,215.1	2.0	3,308.9	3,823.0	-13.4
14.Radio, television and parts	14,060.2	1.9	3,761.6	2,904.0	29.5
15.Plastic products	10,665.6	1.5	3,019.1	2,193.2	37.7
16.Frozen fowl	10,275.7	1.4	3,281.8	2,204.3	48.9
17.Furniture and parts	10,162.3	1.4	2,564.1	2,264.7	13.2
18.Toys	7,802.2	1.1	1,714.7	1,210.0	41.7
19.Timepieces and parts	7,573.3	1.0	1,946.8	1,413.9	37.7
20.Canned pineapple	7,243.6	1.0	2,569.0	1,718.0	49.5
21.Others	261,798.2	36.2	69,764.3	56,039.0	24.5
Total Exports	724,793.4	100.0	188,914.6	166,164.0	13.7

Source : Business Economics Department
and Customs Department

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Table 5 : The Number of Breed Imported : 1987-1991.

Unit : head

Year	Grand Parents (G.P)	Parent Stock (P.S)	Total
1987	133,002	1,170,101	1,303,103
1988	191,056	2,006,705	2,197,761
1989	179,458	1,720,159	1,898,617
1990	269,374	1,455,925	1,692,299
1991	259,174	1,522,349	1,781,523
Average Increasing	16.78 %	1.78 %	3.96 %

Source : Department of Livestock

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Table 6 : Chicken Production and Consumption in Thailand : 1986-1992

Year	Production (Million Head)	Consumption	
		(Million Head)	Portion (%)
1986	499.280	383.780	76.87
1987	416.305	300.037	72.07
1988	458.058	284.094	62.02
1989	551.646	354.735	64.30
1990	488.486	245.575	50.27
1991	568.091	272.036	47.88
1992*	720.000	416.428	57.84

Source : Office of Agricultural Economics

Note * Estimated number

Table 7 : Animal Feed Production : 1983 - 1989

Unit : million ton

Year	Production capacity	Total Production	Growth rate (%)	Production/ Capacity (%)	No. of Mills
1983	2.80	1.523	-5.4	54.4	34
1984	2.80	1.826	19.9	65.2	34
1985	3.32	1.992	9.1	60	41
1986	3.22	1.906	-4.3	59.2	39
1987	3.34	2.187	14.7	65.5	40
1988	3.93	2.500	14.3	53.5	45
1989	4.00	2.822	12.4	70.6	45

Source : Calculated from Formulae of Feed Mill Association of Thailand

Table 8 : Modern Slaughterhouse for Chicken Processing in Thailand

Manufactures	Capacity	
	Head/day	Weight(kg/day)
1. Saha Farm	120,000	216,000
2. C.P. Minburi	80,000	144,000
3. C.P. Bangna	50,000	90,000
4. C.P. Sara-buri	120,000	216,000
5. G.F.P.T.	100,000	180,000
6. Srithai Livestock	70,000	126,000
7. Gentaco	80,000	144,000
8. Better Food	60,000	108,000
9. Laem Thong Sahakarn	60,000	108,000
10. T.J. Food	75,000	135,000
11. Salvalley	40,000	72,000
12. Union Poultry	25,000	45,000
13. Golden Poultry	20,000	36,000
Total	900,000	1,620,000
Average	69,231	124,615

Source : A Devision of Public Health Veterinarian, Department of Livestock

Table 9 : A Development of Arbor Acers Performance 1981 and 1991

Age (weeks)	1981		1991	
	Weight (kg)	FCR	Weight (kg)	FCR
6	1.35	1.82	1.98	1.74
7	1.73	1.95	2.45	1.91
8	2.11	2.09	2.91	2.06
9	2.28	2.28	3.35	2.18

Table 10 : Invested Budget for Broiler Farm, Comparing Between Opened & Closed Pens in 1990

Unit : 1,000 baht

Details	Closed (Evap)	Opened
1. Land	(225 rais) 7,125	(400 rais) 14,406
2. Chicken Pen	(25 unit) 40,725	(40 unit) 29,226
3. Residentail House	857	1,100
4. Infection Guard	111	367
5. Cafeteria	243	301
6. Security Unit	410	1,381
7. Warehouse	300	279
8. Office	358	399
9. Utility System	8,692	9,542
10. Machinery & Equipment	8,085	7,076
11. Decoration Equipment	77	357
12. Vechicle	647	155
Total cost in 1990	67,630	64,589
Total cost in 1991 *	74,393	71,048
Farm establishment cost (1,000 baht)	60,505	50,183
Capacity / Farm (heads)	500,000	400,000
Average cost (except land)	121	125
Average total cost	135	161

Note * Estimated number calculated from 10% increasing rate

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Table 11 : Broiler Price at Farmgate : 1987-1992

Unit : baht/kg

Month	1987	1988	1989	1990	1991	1992
January	19.96	17.89	19.92	21.11	22.56	22.38
February	18.37	19.40	20.38	22.92	22.48	22.19
March	15.55	19.73	21.72	23.35	22.33	22.14
April	15.33	17.64	21.17	21.20	20.45	22.91
May	17.43	19.80	21.51	22.97	21.15	22.94
June	20.11	20.96	22.82	23.24	25.00	-
July	21.41	22.77	23.20	21.97	26.50	-
August	22.30	21.78	24.23	23.21	26.30	-
September	23.17	23.30	20.53	23.32	25.50	-
October	23.01	20.42	19.84	22.06	26.50	-
November	0.00	14.58	19.38	21.03	25.21	-
December	0.00	15.47	19.34	21.33	22.09	-
Average/year	19.66	19.48	21.17	22.31	23.95	22.51

Source : Office of Agricultural Economics,
Ministry of Agriculture and Co-operatives

Figure 1 : Relationships of Poultry Industry and Other Related Industric

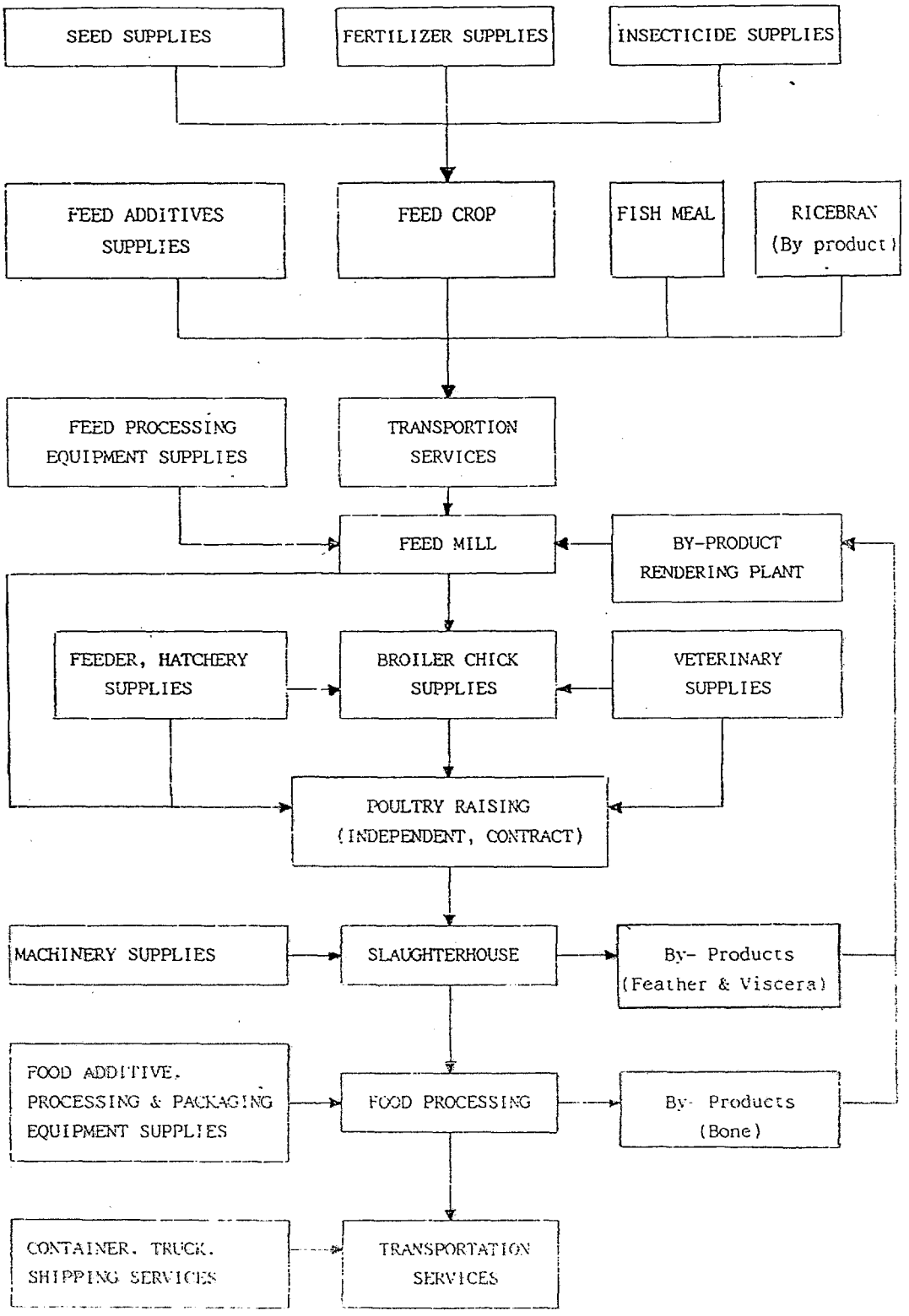

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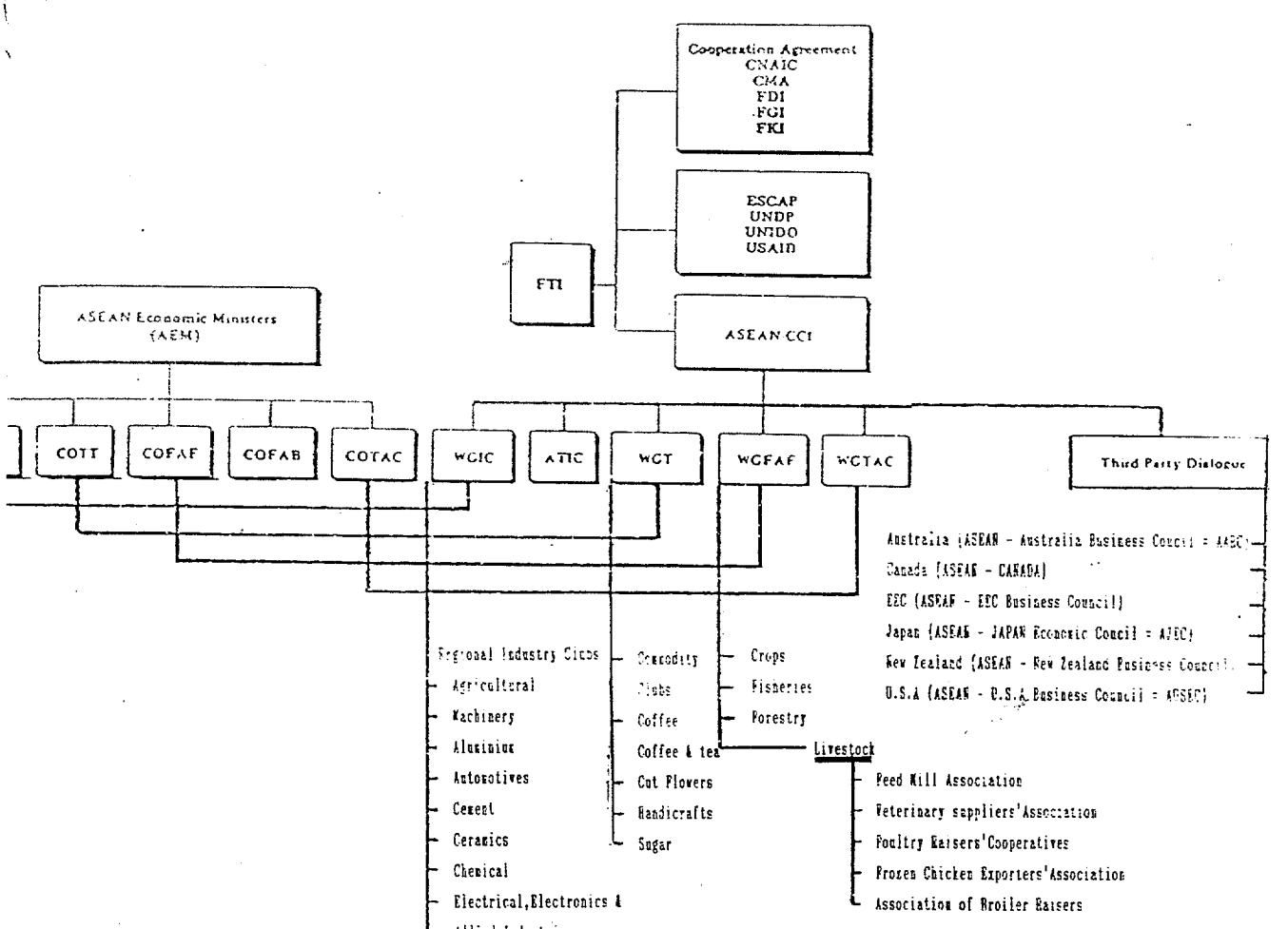
Figure 2 : Affiliate Associations of Poultry Industry under the Federation of Thai Industries



NOTE

FTI = The Federation of Thai Industries
AEM = ASEAN Economic Ministers
ATIC = ASEAN Trade and Investment Corp.
CCI = Chamber of Commerce & Industry
CMA = Canadian Manufacturers' Association
CNAIC = Chinese National Association of Industry and Commerce
COIME = Committee on Industry, Minerals & Energy
COFAB = Committee on Finance & Banking
COFAF = Committee on Food, Agriculture & Forestry
COTAC = Committee on Transportation & Communication
COTT = Committee on Trade & Tourism
FDI = Federation if Denish Industries
FGI = Federation of German Industries
FKI = Federation of Korean Industry
JPPCC = Joint Public/Private Sector Consultant Committee
JSCCIB = Joint Standing Committee on Commerce, Industry and Banking
WGFAF = Working Group on Food, Agriculture & Forestry
WGIC = Working Group on Industrial Co-operation
WGTAC = Working Group on Transportation and Communication
WGT = Working Group on Trade

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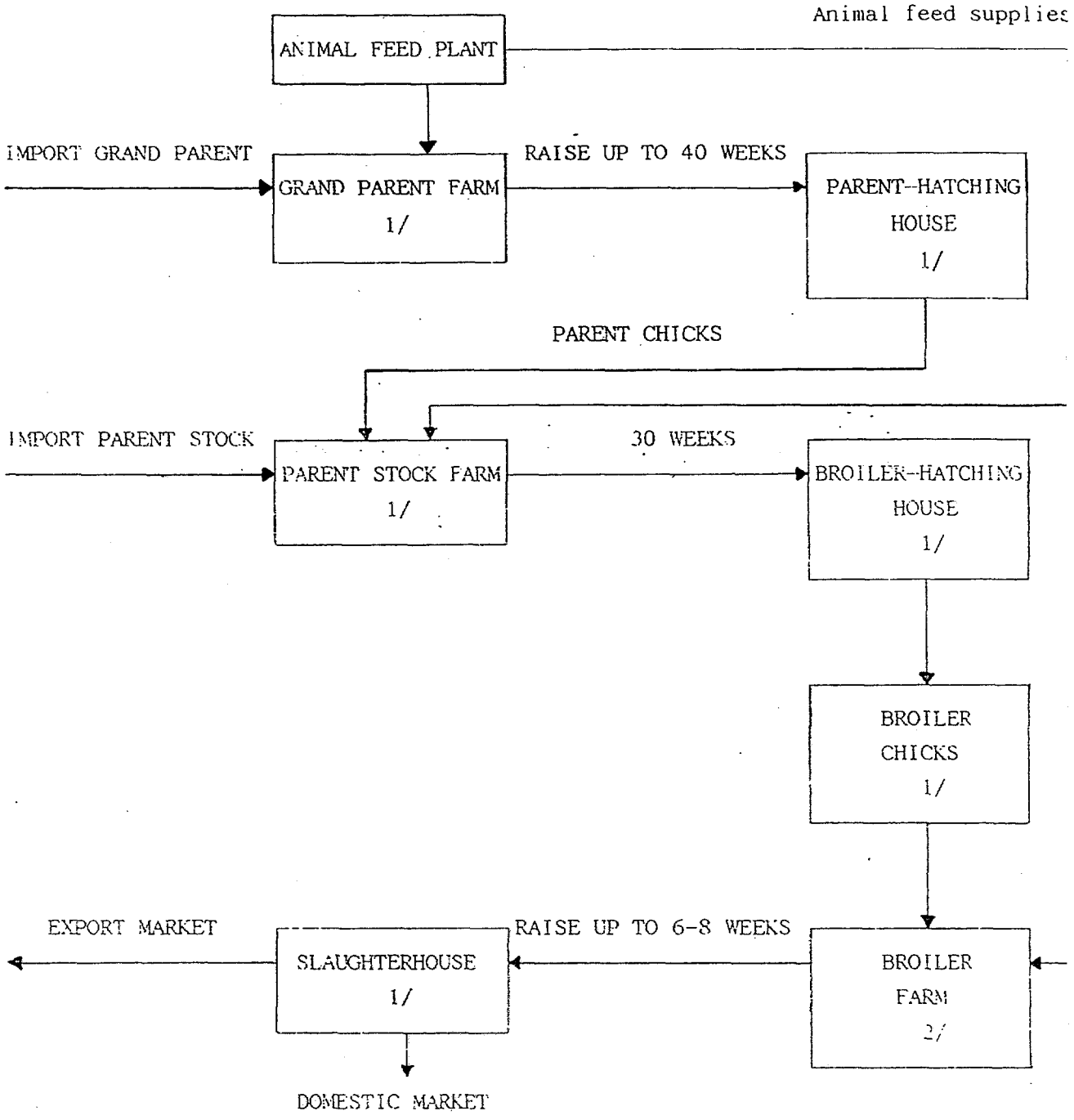
FIGURE 3 : STRUCTURE OF POULTRY RAISING



NOTE : 1/ :- Subdivision or a company of individual animal feed plant
2/ :- Contracted farms

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Figure 4 : Marketing Channels of Broilers (Contract Market)

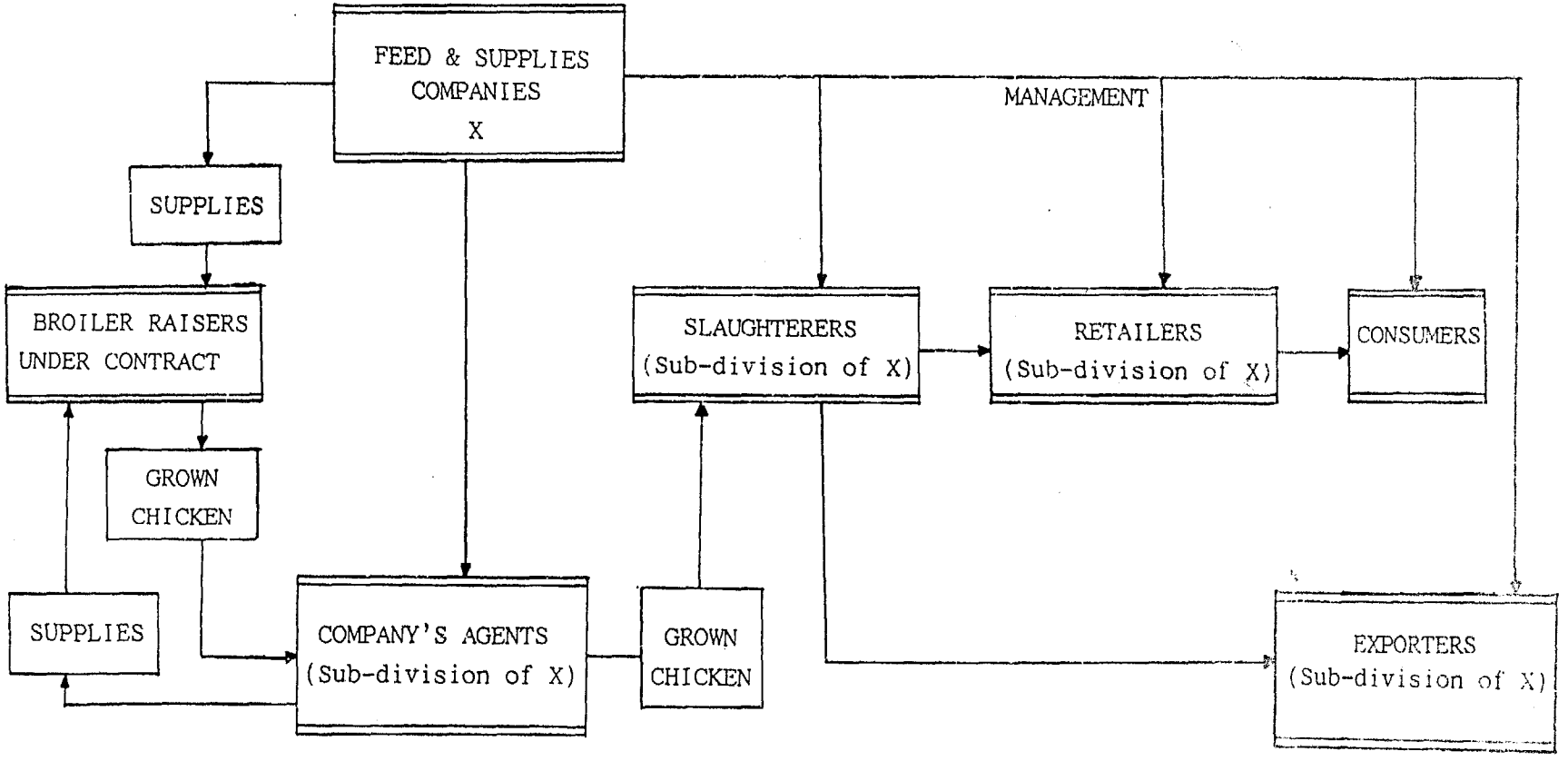

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Figure 5 : Marketing Channels of Independent Broilers Raisers

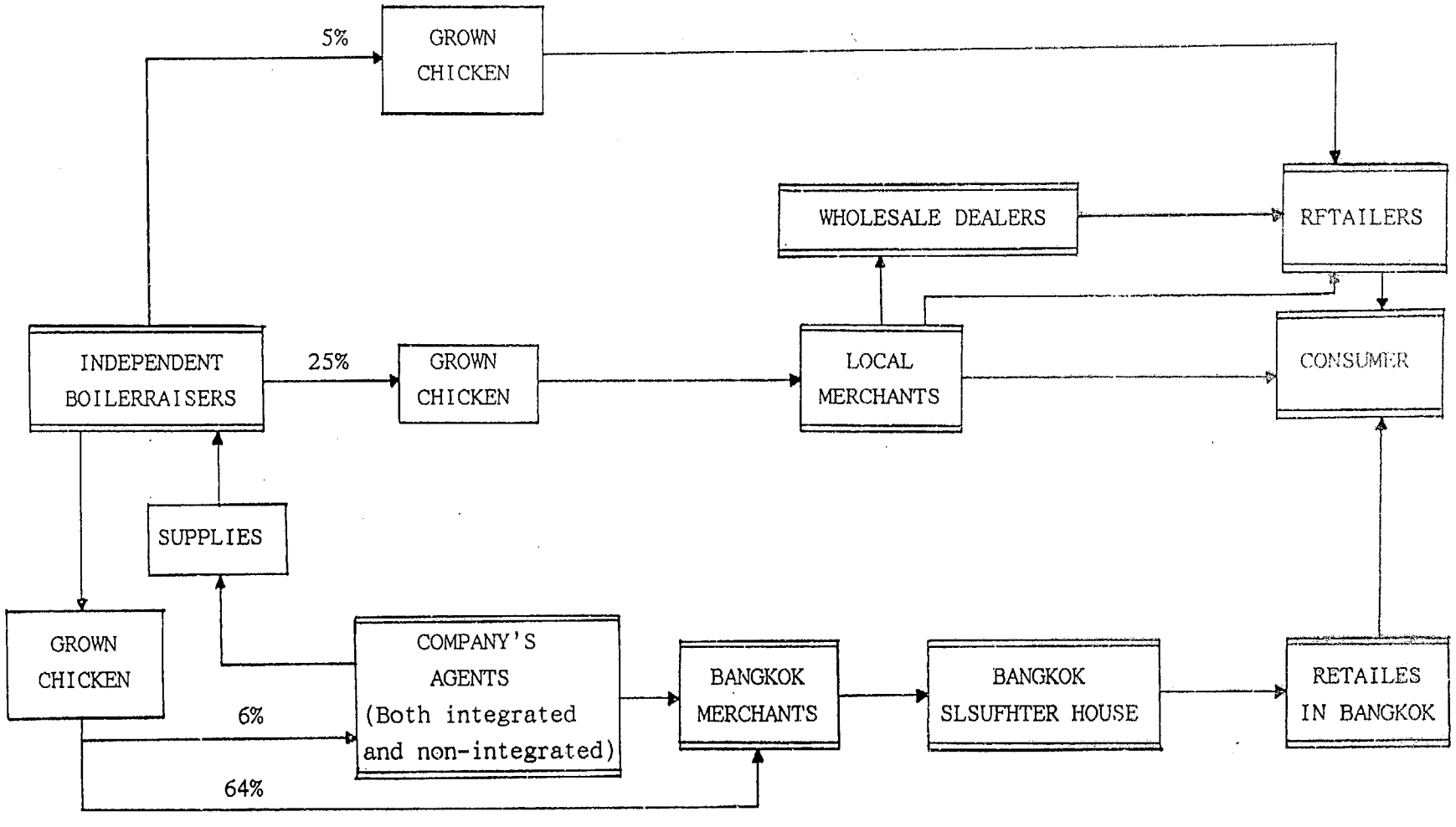
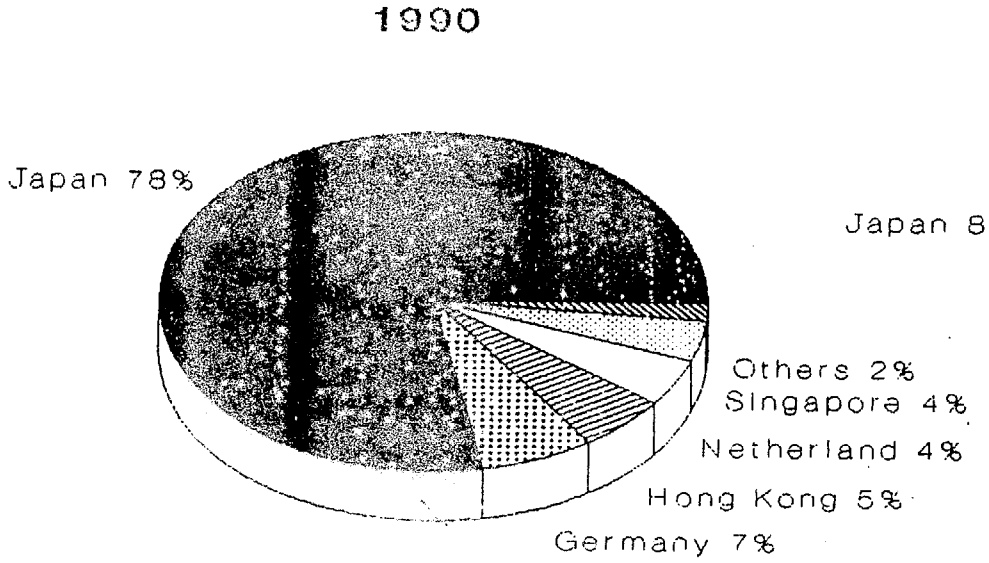
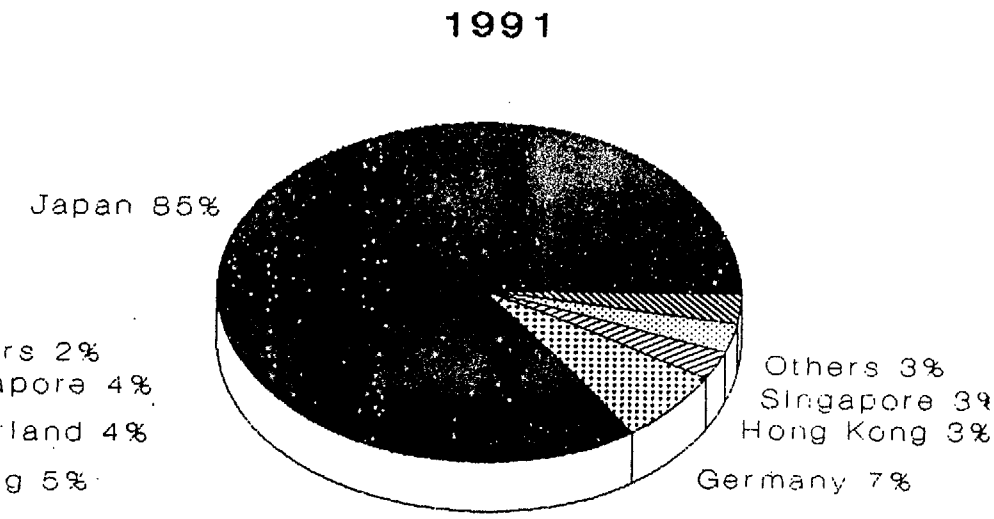


Figure 6 : Frozen Chicken Exported from Thailand by Portion : 1990 and 1991



Total 138.7 Mil Ton



Total 164.1 Mil Ton