

INTERNATIONAL COOPERATIVE ALLIANCE  
Regional Office & Education Centre for South-East Asia



# REPORT

## Survey of Agricultural Cooperative Marketing Projects in South-East Asia

PART III

Thailand and Malaysia

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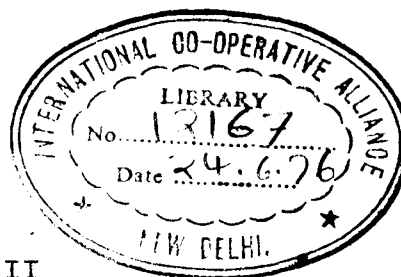
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R E P O R T

ON

THE SURVEY OF COOPERATIVE AGRICULTURAL MARKETING PROJECTS

IN SOUTH-EAST ASIA



PART - III

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THAILAND AND MALAYSIA

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INTERNATIONAL COOPERATIVE ALLIANCE  
Regional Office & Education Centre for South-East Asia  
43 Friends' Colony (East), New Delhi-14  
I N D I A

August 10, 1973

Mr P.E. Weeraman  
Regional Director  
ICA Regional Office & Education  
Centre for South-East Asia  
43 Friends' Colony (East)  
New Delhi-110-014 (India)

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My dear Palita,

Re : Survey of Cooperative Agricultural Marketing  
Projects in South-East Asia - PART III

Kindly refer to your letter No.7.9 dated September 8,1972 appointing me as the Leader of the Study Team for conducting the Third Part of the Survey of Cooperative Agricultural Marketing Projects in Thailand and Malaysia. Kindly also refer to your two letters of same number and date appointing Dr Jagjit Singh and Mr Sukio Imai as members of the Study Team for survey in the above two countries.

2. On behalf of the Study Team I have great pleasure in submitting to you our report on survey in Thailand and Malaysia. The report may please be circulated among members of the ICA Sub-Committee for Agriculture and Trade and also Members of the ICA Advisory Council for South-East Asia. The report may also please be sent to member organisations in Thailand and Malaysia for necessary follow-up action at their end.

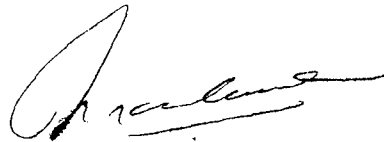
3. Kindly also refer to your letter of the same number and date appointing Mr Toshio Shimizu as a Member of the Study Team for Survey in the Philippines. As you are already aware, the Study Team could not conduct the survey in the Philippines owing to the declaration of Martial Law in that country just before the date on which the survey was scheduled to commence. I, therefore, regret that it is not possible for the Study Team at this stage to submit a report on the Philippines.

4. On behalf of the Study Team, I would like to express to you our grateful thanks for all the facilities and kind assistance given by you for successful completion of this part of the Survey. I would also like to request you

to kindly convey our sincere thanks to member-organisations in Thailand and Malaysia for their kind cooperation in our work related to the Survey.

5. Lastly, I would like to record my very sincere appreciation to my colleagues in the Study Team - Dr Jagjit Singh and Mr Sukio Imai for their generous assistance and the excellent team spirit displayed by them during the period of the Survey.

Yours sincerely,

A handwritten signature in black ink, appearing to read 'M.V. Madane', written in a cursive style.

M.V. Madane  
Leader of the Study Team

Encl: Survey Report -  
Part III

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July 24, 1973

SURVEY OF CO-OPERATIVE AGRICULTURAL MARKETING  
PROJECTS IN SOUTH-EAST ASIA - PART III

(THAILAND & MALAYSIA)

R E P O R T

INTRODUCTION

The International Cooperative Alliance (ICA)

1. The International Cooperative Alliance (ICA) was founded in London in 1895 as an association of national unions of cooperative societies, which seek to promote a non-profit system of production and trade, organised in the interests of the whole community and based upon voluntary and mutual self-help.
2. It comprises organisations in every continent and its total affiliated membership through national organisations exceeds 278 million. The consumers' movement accounts for about half the membership; the other half consisting of agricultural, credit, workers' productive, artisanal and fishery societies.
3. Its purpose is to propagate cooperative principles and methods and to promote friendly and economic relations between cooperative organisations of all types, both nationally and internationally.
4. It promotes, through auxiliary trading, banking and insurance organisations, direct commercial and financial relations between cooperative enterprises in different countries so as to enable them to exert on the world market, as well as at home, an influence beneficial at once to consumers and primary producers.

5. It convenes international congresses, furthers the teaching and study of cooperation, issues publications and research data, and collaborates closely with the United Nations as well as with voluntary and non-governmental international bodies which pursue aims of importance to cooperation.

6. In the United Nations, its Economic and Social Council, as well as in some of the Specialised Agencies, it enjoys the right of participation in their meetings and work as an International Organisation with Consultative Status, Category I.

7. The Head Office of the ICA which is in London, coordinates activities of the Alliance all over the world directly in respect of Europe, North America, the Middle East and the Western parts of Africa. In respect of South-East Asia and East of Central Africa the ICA deals with the movements through its Regional Offices located at New Delhi, India and Moshi, Tanzania respectively.

8. The Regional Office for South-East Asia in New Delhi was started in 1960 and the office in Moshi in 1968.

9. The main tasks of the Regional Office and Education Centre at New Delhi are to develop the general activities of the Alliance in the Region, to act as a link between the ICA and its affiliated national movements, to represent the Alliance in its consultative relations with the regional establishment of the United Nations and other International organisations, to promote economic relations amongst member-movements, including trading across national boundaries, to help in the supply of technical assistance, to conduct educational activities for the movements in the Region and to bring out publications on the various aspects of cooperative development.

ICA and the Second UN Development Decade

10. The United Nations General Assembly through its Resolution 2459 (xxiii) of December 1968 recognised the important role of cooperative movement in the development of various fields of production and distribution, including agriculture, animal husbandry, fisheries, manufacturing, housing, credit institutions, education and health services and also recognised that it was important to promote cooperative movements which can effectively contribute to the implementation of the goals of the Second United Nations Development Decade. It invited member-States to provide increasing assistance to cooperatives and requested the ILO and other Specialised Agencies and the ICA to render increased assistance aimed at resulting the objectives of the UN General Assembly Resolution.

11. The above resolution had also requested the United Nations Economic and Social Council (ECOSOC) to consider, in connection with the preparations for the Second United Nations Development Decade, the question of the role of cooperative movement in ECOSOC. Accordingly, the ECOSOC through its Resolution 1491 (xlvi) on "the role of cooperative movement in Economic and Social Development" also recognised that "cooperatives have an important role to play in the promotion of economic and social development, particularly by providing a suitable institutional frame work for facilitating the mobilisation of human, financial and other resources" and requested its Secretary General to collaborate closely with the UN Agencies as well as with the ICA and other non-governmental organisations in preparing and implementing an action programme in the field of cooperative development.



12. The 24th Triennial Congress of the ICA held in Hamburg (West Germany) in September 1969 welcomed the UN General Assembly Resolution which had recognised the important role of the cooperative movement in meeting the social and economic problems of developing countries and expressed the willingness and readiness of the Alliance for the further development of cooperation with the U.N. and its specialised Agencies and other National and International organisations in the fields of common interest and had requested to the authorities of the Alliance to make special studies of cooperative organisations with special reference to their role in accelerating the socio-economic development in different parts of the world and requested the Director of the Alliance to forward to the Secretary General of the United Nations, its Specialised Agencies, to the governments and to the ICA's member-organisations the results of these studies.

#### A Cooperative Development Decade

13. In accordance with the mandate given by the Congress the Director of the ICA prepared an action programme for a cooperative development decade. According to which the first two years of the Decade (1971-72) would be known as the planning phase and the following eight years (1973-80) would be known as the operational phase and would be used for implementing the action programme. During the planning phase the ICA would be sponsoring a series of basic studies and drawing up an action programme based on the results of these studies.

14. It is expected that the Cooperative Development Decade would serve as a basis for coordinating these studies and ensuring the implementation of the recommendations resulting from them.

15. The overall objective of the Decade proposals, in relation to the Region of South-East Asia, would be to increasing productivity through strengthening and development of agricultural cooperatives in different countries of the Region.

16. The present survey is one of the studies undertaken by the Alliance to realise the objectives of the Cooperative Development Decade. The broad objectives of this study are to identify cooperatives at the initiative of the national movements in the countries of the Region as model examples of cooperative development with the ultimate aim of initiating measures for their intensive development so that these cooperatives would serve as demonstration centres and would have a multiplier effect on cooperatives in other areas. This identification will help the developing movements concerned to obtain external assistance for the development of these projects from developed movements and aid-giving authorities and agencies. The ultimate objective of the survey is the further development of cooperative agricultural marketing in the developing countries of the South-East Asian Region.

17. The Agricultural Sub-Committee of the ICA for South-East Asia which originally sponsored this Survey, recommended that the Survey be conducted in the field of agricultural cooperative marketing with the ultimate object of further developing such marketing in countries of South-East Asia. The Sub-Committee recommended that the Survey be conducted by Study Teams consisting of experts recruited in the context of the commodities to be surveyed in each country or a group of countries.

#### First and Second Parts of the Survey

18. The first and second parts of the Survey which have already been completed covered India, Indonesia, Sri Lanka and the Republic of Korea. The Study Team appointed for the first part of the survey also visited Australia as a Trade Promotion Team.

### Third Part of the Survey

19. The Third Part of the Survey was conducted in Thailand and Malaysia during October-November, 1972. The Regional Director of the I.C.A. in South-East Asia appointed the following Study Team for the Third Part of the Survey.

- |      |  |                    |
|------|--|--------------------|
| i.   | Mr M.V. Madane<br>Joint Director, Technical<br>Assistance and Trade<br>ICA Regional Office<br>New Delhi (India)                        | Leader of the Team |
| ii.  | Mr Sukio Imai<br>OTCA Expert<br>C/o UNICOOPJAPAN<br>No.97 Rajdamri Road<br>Bangkok (Thailand)  | Member             |
| iii. | Dr Jagjit Singh<br>Secretary General<br>Institute of Marketing<br>and Management<br>62-F Sujan Singh Park<br>New Delhi-110-003 (India) | Member             |

### Terms of Reference

20. Following were the Terms of Reference for above Study Team.

- i) Study, on a selective basis, the general economic conditions of the countries concerned with special reference to the development of agriculture,
- ii) Examine the present role of cooperatives in these countries in the development of agriculture,
- iii) Examine the present programmes of cooperatives for agricultural production and marketing,
- iv) Study the facilities available in the countries in respect of agricultural finance, agricultural inputs, agricultural extension and transportation and communications,

- v) Study the organizational structure of the cooperatives involved in such work with special reference to their resources, personnel and management aspects,
- vi) Identify areas which are potentially important and economically feasible for intensive development,
- vii) Examine the feasibility of Cooperative Agricultural production and marketing projects submitted by cooperative organisations,
- viii) Examine, wherever possible, the possibilities of developing trade relationship among cooperatives on an intra-regional and inter-regional basis; and
- ix) Recommend suitable follow-up action by national and international organisations in this field.

21. The Study Team appointed for the Survey in Thailand and Malaysia was also expected to make the study in the Philippines. However, in view of declaration of Martial Law in the Philippines and in view of the unsettled conditions which prevailed in that country at that time, it was decided to postpone the survey to a future date. The decision to postpone the survey was taken in consultation with the ICA member-organisations in the Philippines.

22. The Survey Schedule

13th October, 1972	:	The Study Team assembled in Bangkok (Thailand)
14th-26th October	:	The Team conducted survey in Thailand
27th October	:	The Team travelled to Kuala Lumpur (Malaysia)
28th Oct - 7th Nov	:	Conducted Survey in Malaysia
9th-10th November, 72	:	The Team discussed main recommendations of the Survey in Singapore

Visits in Thailand

23. During the survey period in Thailand the ICA Study Team made courtesy calls on the following two officials :

- i) Col. Surin Cholpraserd  
President  
Cooperative League of Thailand and  
Under-Secretary of State  
Ministry of Agriculture,  
4 Pichai Road, Dusit,  
Bangkok (Thailand)
- ii) Dr Suthee Singasaneh  
Director  
Cooperative League of Thailand  
4 Pichai Road, Dusit,  
Bangkok (Thailand)

23.1 In addition, the Team Members held discussions with the officials of the following two institutions :

- i) The Bank for Agriculture and Agricultural Cooperatives; and
- ii) The Cooperative Marketing and Purchasing Federation of Thailand, Bangkok.

23.2 During the field visits the Study Team visited the following cooperative institutions :

Nakornratchasima Province

- Societies visited :
- a) Pakchong Agricultural Cooperative Society,
  - b) Nakornratchasima Cooperative Federation Limited,
  - c) Soongnern Multipurpose Cooperative Society.

Chainat Province

- Societies visited :
- a) Chainat Cooperative Federation,
  - b) Khuen Chaopraya Agricultural Cooperative.

Sukhothai Province

- Society visited : a) Sawankolok Land Cooperative Ltd.

23.3 In Thailand, the programme and the practical arrangements for the ICA Study Team were made by the Cooperative League of Thailand in collaboration with the Cooperative Promotion Department in the Ministry of Agriculture.

Visits in Malaysia

24. In Malaysia the Study Team made courtesy calls on the following individuals :

- i) Mr N.A. Kularajah  
President  
Cooperative Union of Malaysia Ltd., and  
General Manager of the  
Malaysian Cooperative Insurance Society (MCIS)  
PO Box 685  
Kuala Lumpur (Malaysia)
- ii) Mr Busu  
Director General of Cooperatives  
Department of Cooperation  
Swettenham Road  
Kuala Lumpur (Malaysia)
- iii) Mr Ismail bin Din  
Secretary  
ANGKASA  
Jalan Templer  
Petaling Jaya, (Malaysia)
- iv) Mr G.S. Dass  
Managing Director  
Central Cooperative Bank Ltd.  
29 Leboh Ampang  
Kuala Lumpur (Malaysia)

24.1 The Team also discussed with the above individuals problems relating to cooperatives in Malaysia and the trends for future development.

24.2 The Study Team visited the following agencies and institutions for detailed discussions concerning government programmes for diversification of agriculture and for experimental cultivation of maize, sorghum, alfalfa, tapioca, and other similar crops.

- i) Federal Agricultural Marketing Authority (FAMA)

- ii) Federal Land Development Authority (FLDA)
- iii) Federal Industrial Development Authority (FIDA)
- iv) Majlis Amanah Rakyat (MARA), and
- v) Malaysian Agricultural Research and Development Institute (MARDI)

REPORT ON THAILAND

25. Thailand occupies the centre of the South-East Asian mainland between Burma to the West, Laos and Cambodia to the East and the Malayan peninsula to the South. Its total area is 514,000 sq. kilometres and according to the 1970 census the population is 34,152,000. Bangkok is the capital of the country. Agriculture is the main occupation employing more than 26 million people and accounting for 31.9% (1969) of the G.N.P. The per capita G.N.P. amounts to US\$1,706 (1969). The chief agricultural produce of the country is rice which is also the main item of food and a major source of foreign exchange earnings. The area under paddy cultivation is around 18 million acres. According to the 1969 figures, the total output of major crops in Thailand was :

	<u>In Metric tonnes</u>
Paddy	13,346,000
Maize	1,407,000
Sugarcane	3,847,000
Coconut	1,111,200
Groundnuts	185,000
Cotton	125,000
Kenaf	388,700
Tobacco	71,100
Sesame	22,000
Castor seeds	42,600

Agricultural Cooperatives

26. Majority of the cooperatives in Thailand are agricultural cooperatives. After the recent amalgamation, the previous 9,646 small credit cooperatives have been merged into 420 medium size cooperatives with limited liabilities. There are 65 marketing cooperatives and 22 other farm-products cooperatives dealing with special crops. There are regional federations of paddy marketing cooperatives which operate rice



mills with a total capacity of 217 million tons of paddy per year. In addition, 165 land improvement cooperatives, covering land areas of 718,520 acres, try to provide organised irrigation facilities and supply credit for agricultural purposes. There are also 292 land settlement cooperatives covering an area of 76,300 acres. In addition, there are a few land hire-purchase and tenant cooperatives, cottage industry cooperatives, fishery cooperatives and specialised agricultural cooperatives. At the apex level there is the National Agricultural Marketing Federation (CMPF) which undertakes limited marketing activity as well as exports. The Bank for Agriculture and Agricultural Cooperatives (BAAC) provides, to some extent, finance for agricultural production either through agricultural cooperatives or direct to farmer members. The spokesman of the cooperative movement in Thailand is the Cooperative League of Thailand (CLT) which is a member organisation of the I.C.A.

REPORT ON SOCIETIES VISITED IN THAILAND

Nakornratchasima  
Province

Nakornratchasima Cooperative Federation Ltd.

27. This cooperative is a federal organisation for the province engaged in collection, processing and marketing of paddy. It has 15 cooperative members in addition to 154 individual members and a share capital of half a million Baht (One Baht is equivalent to approximately 5 US cents).

28. The total cultivated land in the province is 2,164,000 Rai (2.5 Rai makes an acre). Out of this 282,500 Rai have been brought under irrigation. Other crops in the area are vegetables and beans. We were informed that out of the total estimated rice production of 324,000 metric tons the Federation purchased last year only about 6,000 metric tons of paddy.

29. The society does not provide any production credit; however, credit for cooperative marketing is provided in the process of purchase of paddy in the local market. 75% of its purchases are from cooperatives and the processed rice is sold mostly to Thai Rice Company for export and a small quantity is sent to the Cooperative Marketing and Purchasing Federation (CMPF). It does not borrow from the Bank for Agriculture and Agricultural Cooperatives (BAAC). The collected rice is milled by the society in its own mill which has a daily capacity of 80 tons. The mill is, however, not working to its full capacity and during the last year it was able to process only 7,657 tons of paddy. The society collects only a small portion of the total paddy marketed in the province, and its membership is rather limited. The purchase of land and the erection of godown and the machinery for the rice mill has been financed by the Department of Cooperative Marketing and Credit of the Government of Thailand. The total assets in the form of above property amount to  $\text{฿}1.8$  million. The Team was informed that the society does not experience any shortage of funds and is able to provide to members as much finance as they need for rice purchase in the local market. It was not very clear to us why the Federation could not enlarge the scope of its membership and cover a wider area thereby increasing its purchasing capacity.

30. The total turnover of the society during 1971 was six million Bahts and the borrowings from government amounted to  $\text{฿}900,000$ . The price of rice being very low the Federation last year incurred a loss of  $\text{฿}83,000$ . The position has now improved and the society has earned during the year 1971-72 a profit of  $\text{฿}290,000$ . The Federation accepts time-deposits, and short-term deposits from members and pays interest on time-deposits at 5 to 7% per annum. The average amount of cooperative loan to individual farmers in this area was  $\text{฿}3,000$  and this being short of the total requirements they have invariably to borrow from other sources.

31. The society can obtain additional deposits but is unwilling to accept them as it does not know how to invest the additional funds. The share capital of the society, which is rather limited compared to its business, is expected to be increased as it has plans to convert the future dividend earned by members into shares. The total assets of the society amount to  $\text{฿}3,147,000$  and it expects to be self-sufficient after repayment of government loan during the next eight years. The Federation supplies to members, agricultural inputs such as fertilizers, agricultural chemicals, and also provides extension services and education to cooperative members. It does not have trained managerial personnel.

#### Problems

32. The major problem faced by the Federation was of constant price fluctuations in the local market and its inability to correct the imbalance owing to its limited percentage of turnover compared to the total rice marketed in the province. The Federation often faces the problem of accumulated stocks when it fails to find buyers of processed rice. The Thai Rice Company buys its rice only for export and this demand is dependent on international market conditions. The Federation has a very poor market intelligence service and its communication link with member cooperatives is far from satisfactory. The business link with CMPF and BAAC was rather perfunctory. There was complete absence of long-term planning in the organisation. Most of the problems have arisen due to the weak membership base of the Federation.

#### Soengnern Agricultural Cooperative Ltd.

33. This society is also located in the Nakornratchasima Province. The population in the area of operation of the society is 40,000 divided into 8,400 families. The cultivated area is 67,510 Rai. The average annual rainfall is 1,359 mm.

We were informed that the water supply position was satisfactory owing to the existence of two irrigation projects in the area. The soil is fertile and does not need much of fertilizers. The main crops grown are rice, kenaf, maize and mung beans. The society handles mostly rice.

Enlarged Multipurpose Society

34. The Soongnern society is a recently reorganised multipurpose society through the merger of 43 rural credit cooperatives. It has 664 individual members who are divided into 15 groups in different villages. The society provides credit for production and marketing on short-term and medium-term basis. The total loans advanced for the year ending 31 March, 1972 was  $\text{R}2,852,899.06$ . The society borrows its operational funds partly from the Government Guarantee Fund and the Cooperative Promotion Fund and partly from BAAC. The average credit need of the member, we were informed, is about  $\text{R}11,000$  per member 50% of which is provided by the society. The Society supplies agricultural inputs to the members in the form of agricultural equipment, chemicals and fertilizers, most of which is purchased from the CMPF. We were informed that the society was able to meet 65% of the total input requirements. A part of the inputs are given in kind.

35. The society, which is a member both of the provincial federation as well as the CMPF, markets its rice in the open market. Although no definite figures were available of the total quantity handled, we were informed that the society marketed about 20% of the total rice production. It is trying to improve the milling in order to produce 100% unbroken rice. Out of the 664 members, 536 members produce rice and market it through the society.

Under-utilized Rice Mill

36. The society owns a rice mill and a warehouse. The capacity of the mill is four tonnes per day for 12 working hours and the storage capacity of the warehouse is 20 tonnes. The society has a pick-up van for collecting agricultural produce from the members and for supplying agricultural inputs. The funds for the creation of these facilities were obtained from the government and the BACC. The society does not fully utilise the rice mill capacity for want of technical personnel. We were informed that the rice mill was established because of the demand from the members, but no satisfactory explanation was available as to why it was necessary to establish the rice mill even though the mill operated by the Provincial Federation remained under-utilised.

37. The society provides extension and educational services to the members and gives agricultural equipment on hire.

Problems

38. Although the society is fairly well-organised there were several operational difficulties and drawbacks. The society had a very small membership compared to the total farming population in the area. It does not purchase the total rice produced by the farmers. We were informed that lack of funds was the main reason for not increasing society's membership.

39. The society does not integrate its marketing activities with those of the Nakornratchasima Cooperative Federation and the CMPF in Bangkok. It is not in a position to check price fluctuations in the market on its own as this requires the support of the higher level federations.

40. The society has not been able to help members in diversifying their crops. Also it does not have trained managerial personnel.

Pakchong Agricultural Cooperative Ltd.

41. This society is also located in Nakornratchasima Province and operates in an area of 967,000 Rai farm lands. Most of the lands have been recently brought under cultivation and the present crops grown are maize, soyabeans, cotton, banana and other cash crops. The climate is temperate and most of the lands are situated at about 300 ft. above the sea level. The average annual rain fall is 1,635 mm. Irrigation through a reservoir is possible and some members have individual wells to irrigate their lands. The individual farmers holding in this area is above the average land holding in Thailand.

42. The total production of maize in the area was about 33,000 metric tons and the society purchased and supplied to CMPF about 900 metric tons during the year 1971. Some members of the society sold their maize direct to traders in the local market as the society was not in a position to assure a definite price to the farmer producers. We were informed that CMPF usually sends its market information through Post and not by telegram or through telephone.

Increasing Deposits

43. Out of a total of 21,706 households the society has 450 members divided into 21 groups. The share capital is  $\text{฿}174,550$  and the owned funds amount to  $\text{฿}1,118,480$ . The society extends production credit to farmers upto 80% of their requirements which average to  $\text{฿}10,150$  per member. Some part of the loan is given in kind. The society borrows from the Department of Cooperative Marketing and Credit and also from the BANC. It accepts deposits from members at 4% rate of interest and the total deposits at present amount to  $\text{฿}150,000$ . We were informed that the deposits are on the increase. The BANC would be in a position to advance more loans to the society if the society was in a position to increase its share capital and the reserves. The society provides agricultural inputs to

the members in addition to agricultural equipment. Most of the supplies are brought from the local market and the rest from the city of Bangkok. Inputs are given against both cash and credit. We were informed that the society is able to provide 88% of the total input requirements of its members.

#### Virgin Soil

44. The society is located in an area which has been recently reclaimed for cultivation. Although the virgin soil yield bumper crops in the initial years, the production ratio was now gradually decreasing. Irrigation is possible with the construction of wells. However, as the elevation of the land was much above the sea level the cost of construction of wells was very high and it was not possible for the individual members to invest this amount. The farmers are, therefore, changing to other crops such as sugar, apple and beans. It may be necessary for the society to assist the members in establishing irrigation facilities and in purchasing agricultural chemicals at reasonable rates. The society will have to evolve a programme of diversification of crops in view of the difficulties faced by members in maintaining present level of production.

45. The agricultural chemicals supplied by the Thai/Japan Chemical Co. (TJC) were costly and it was not possible for the farmers to use them in large quantity. We were informed that the Asian Maize Centre was located near this area and experiments were being conducted to evolve suitable methods of maize production to suit the climate and geographical conditions in this area. The Centre was also trying to grow new varieties of seeds to maintain steady production.

#### Price Uncertainty

46. The society markets most of its maize through the CMEF in Bangkok. A seasonal contract is entered into with CMEF and most of the maize is sent for export. The price fluctuations in maize are not known to the society sufficiently in advance to determine the shipment schedules. The average

price paid by CMPF at the time of our visit was  $\text{฿}1,084$  per ton (gross price) and the net amount credited to the society came to about  $\text{฿}900$ . As the society is located near Bangkok it sends its shipments through trucks thereby incurring heavy costs on transportation. It does not own any facilities such as warehouses, driers, etc. We were informed that although the CMPF knows about the price 30 days prior to the shipment, such market information is not speedily made available to the society. We were assured that if market information was available sufficiently in advance the society would be in a position to deliver more maize to the CMPF.

47. The CMPF charged the society the actual costs for drying and exportation in addition to 2% commission for marketing the grain. The society leaders complained that whereas the private traders were willing to pay ready cash for purchase of maize in the local market, it took about two months for the CMPF to settle the accounts with the society.

48. The Team also felt that the society was not able to use its funds to its best advantage. It was necessary to get proper advice on financial management to ensure maximum use of the available funds. As the society has inadequate information about the local market it can neither improve its marketing performance nor assist CMPF in rationalising the total marketing structure. Some of the difficulties faced by the society were high expenses of handling and transportation, high rate of interest on marketing advance, lack of timely advance from CMPF, lack of market information, inability to make outright purchases, lack of speedy communication with members and lack of trained personnel.



CHAINAT PROVINCEChainat Cooperative Federation Limited

49. The Federation was organised in 1968 by amalgamating the previous paddy marketing cooperatives, agricultural cooperatives and land cooperatives. It has 19 cooperative members with a share capital of  $\text{¥}57,700$ . Basic information about total cultivable land in the area, total number of households and the number of societies was not available. The Federation engages itself in credit and marketing activity and also operates a rice mill to which a warehouse has been attached. It has borrowed from Cooperative Promotion Fund 2.3 million bahts at 2% rate of interest for establishing the rice mill and other facilities. The owned funds of the society are very small.

No link-up of credit and marketing

50. It advances credit up to  $\text{¥}100,000$  to member societies and markets the paddy delivered to it by the societies for processing. There was no link-up of credit and marketing. The Federation purchased only 6,000 tons during the previous year out of the total 200,000 metric tons produced in the area. It was hardly equipped with any information concerning market trends, the total arrivals in the market and the daily purchases by the traders. Most of the rice was sold to Thai Rice Company and the rest to merchants in Bangkok. About 20% was sold to the local consumers.

51. The society does not supply inputs nor does it provide extension services. Majority of the staff members of the society were paid by government. The federation is still incurring losses.

Problems

52. The Study Team felt that the Chainat Cooperative Federation is one of the most ill-equipped Federations at the provincial level. It has a very weak membership base and its financial position is most unsatisfactory. It depends solely on government funds for most of its funds and its management was regulated mostly by government officials.

53. The rice mill operated by the Federation needs a thorough reorganisation. The present percentage of broken rice is so high that it will never be possible for the Federation to break even at this rate. It needs proper inventory control and guidance in financial management. Its marketing activities need to be completely overhauled and placed under trained managerial personnel. In the present circumstances it cannot borrow from BAAC because of its weak capital base.

Khuan Chaophraya Cooperative Limited

54. Before visiting this society the Study Team had the opportunity of visiting the office of the Sappaya Multipurpose Cooperative Project established by the Government of Thailand with technical and financial assistance from the Government of Taiwan. This project aims at improving agricultural productivity through intensive methods and by restructuring the irrigation system as well as by improving farm management and records.

55. The Khuan Chaophraya Cooperative functions in the area of operation of the above project and works as a multipurpose cooperative in close collaboration with the Chinese experts attached to the project. The total area covered by the project is 41,000 Rai while the society covers only 3,000 Rai. Irrigation is partly provided from the Multipurpose Project. The rainfall is 1,100 mm. per year. The area lacks minor irrigation to support the major irrigation started under the project. The soil varies from clay loam to sitty clay and has low fertility. The main crop grown during the rainy season

is rice. During the dry season maize, soya bean, mungbeans and such other crops are grown.

56. The society has 780 members with  $\text{₹}1,006,360$  as share capital. The total assets come to  $\text{₹}1,628,869$ . The turnover of the society is on the increase and it has been making profits for the last three years. The society gives short-term and medium-term loans mostly for production. Bulk of the loans are given in kind mostly in the form of fertilizers, chemicals, agricultural equipment and feedstuff. Society accepts saving and fixed deposits from the members which totalled over  $\text{₹}50,000$  at the end of 1971. It borrows from the Government Guarantee Fund and from the B.A.C. It is able to meet about 65% of the average credit needs of the individual farmers which come to  $\text{₹}11,000$  per member. It is able to provide 90% of the inputs required by the farmers.

57. Technical guidance and extension services are easily available to society members because of the close vicinity of the Multipurpose Project and the availability of services of the Chinese experts. The society has been fortunate in getting expert advice concerning crop diversification, soil conservation, irrigation, extension and member education. The fund created for member education is utilised at the discretion of the Board of Directors. About 35 Rai of land has been set aside for the purpose of demonstrating rice cultivation methods. The Project has helped a great deal in increasing agricultural productivity in the area covered by the society.

#### Marketing Neglected

58. There was hardly any marketing activity in the society except occasional deliveries of rice to the Thai Rice Company and to the Chainat Cooperative Federation. The Study Team was not able to identify reasons for the unwillingness on the part of the society to undertake marketing activity. We were informed that the society has applied for loan for

establishing warehousing and other facilities after which marketing activity may be undertaken. Through increased productivity the Society has created a base for improving living conditions of members and has given them a very good opportunity to be self-sufficient.

59.

There was complete absence of long-term planning in the organisation. No information was available regarding the cost-benefit ratio for different activities. The Study Team felt that as the Society had entered the second stage of its development, it was necessary for it to plan a long-term programme for future supply and marketing activity which will enable the farmers to derive full benefits which have accrued to them from the increased productivity. We were informed that in the case of soyabean, the farmers have demonstrated their determination to sell through the cooperative in view of the profiteering by the local merchants. In this case the farmers refused to sell soyabean to the traders who demanded the produce at a very low price. This resulted in increased price for soyabean marketed by the farmers through the Society.

60. The Society needs trained personnel for supply, marketing and financial management. It also needs trained counterparts who can continue the project work after the termination of the project started with Taiwan assistance. The Society has a very good chance of success provided it adopts scientific methods of management, financial accounting and also undertakes marketing operations to bring maximum returns to the farmer producers.

## SUKOTHAI PROVINCE

### Savangkalok Land Cooperative Ltd.

61. The society is located in the northern province of Sukothai with a comparatively high rate of membership. The total land owned by the farmers is 111,580 Rai. The lands are mostly dependent on rain water and well irrigation and are generally suited to grow all kinds of crops. The main crops are maize, cotton, soyabean, paddy, blackbeans, chilly and sugarcane. The average annual rainfall is 1,320 mm.

62. The society has 3,386 members and its share capital is  $\text{฿}5,385,561$ . The average annual credit given by the society to the members for production purposes is 55% of their total requirements namely  $\text{฿}10,500$ . The loans are given both in kind and cash. The agricultural inputs provided are fertilizers, chemicals and agricultural equipment. The society does not borrow from BAAC and most of the funds are obtained from the Land Cooperative Department of the Government. The society is affiliated to the CMPF in Bangkok. There is no cooperative federation for Sukothai Province.

### Loaning Operations Streamlined

63. The total turnover of the society last year exceeded 11 million Bahts, and the net profit was  $\text{฿}463,159$ . The profit during the last year was lower than the previous year due to drought conditions prevailing in the province. The estimates for the next year were also very conservative in view of the unsteady weather conditions. The Society has a very elaborate procedure laid-down for granting loans to member farmers. It has area committees which scrutinize the applications and the final approval is given by the Land Cooperative Officer attached to the society.

64. The Society is actively engaged in marketing and has continuous operational link with the CMPF in Bangkok to which it delivers substantial quantities of maize for export. Last year it delivered to CMPF more than 5,000 tons of

maize for export valued at more than 5 million bahts. Other agricultural produce marketed amounted to more than one million bahts. The society has also trained staff to collect market information. Regular visits are paid by its market analyst to evaluate the prices and arrivals in the market and a report on different commodities is submitted to the manager. The Society sends its commodities to Bangkok either by rail or by road. It gets 15% commission on the freight paid to the railways.

#### Delayed Market Intelligence

65. The management of the society complained that it has to pay heavy charges to the CMPF for its handling of the market operations for export. The commission taken by the private traders was only 1% whereas the CMPF charged 2%. Also the CMPF charged for storage if the export was delayed. The empty gunny bags returned from Bangkok were mostly damaged. It took two months for the CMPF to settle accounts and the prices for which the commodities sold are not known in advance. We were informed that the traders in Sawankalok market had better information about the Bangkok market than the information received by the society from the CMPF. It was difficult to convince the farmer of the need for delivering his produce to the society in the absence of a definite information on price.

#### Storage facility needed

66. The Society lacks facilities for storage and wants to have its own driers so that moisture laden grain need not be transported to Bangkok at a heavier cost. The society also would like to have a godown in Bangkok for holding goods if necessary, before export.

67. The Society has a trained manager and fairly knowledgeable staff at its disposal. In general the society is a well organised institution with multipurpose functions.

It has an enlightened management and would be a leading institution in the province but for the difficulties it faced vis-a-vis the market in Bangkok and for want of timely supporting services from the CMPF. The society has also organised on a modest scale extension services and member education.

The Cooperative Marketing and Purchasing Federation of Thailand Limited (CMPF)

68. The Cooperative Marketing and Purchasing Federation of Thailand (CMPF) is the successor to the Bangkok Farm Products Cooperative which earlier handled maize exports to cooperatives in Japan. At present the CMPF mostly exports maize collected from its member organisations in accordance with the decisions taken by the Thai-Japan Joint Committee which determines annual quota for export. Last year, the CMPF exported 80,000 metric tons of maize in addition to small quantities of soyabeans and castor seeds. 80% of this maize comes from member cooperatives and the rest is bought from the local market. Maize is accepted for export according to a prescribed standard and the prices are paid on the basis of the moisture contents and other quality specifications. The CMPF has its own storage and drying facilities in Bangkok and the societies delivering grain for export have to pay for utilising these facilities.

69. Japan is the biggest buyer of Thai maize. Out of a total quantity of 925,000 metric tons of maize bought by Japan during last year UNICOOPJAPAN (Trading Co. owned by agricultural cooperatives in Japan) Branch Office in Bangkok was responsible for exporting 110,000 metric tons to its principals in Japan. Under an agreement, the Japanese cooperatives extend to CMPF an advance towards the export price six months prior to the date of shipment. From out of this amount, CMPF provides marketing advance to member cooperatives to enable them to pay to the farmer members a certain percentage of the costs for maize delivered for export.

The actual price is known at a later date and the accounts with the member cooperatives are settled within a period of two months. The CMPF has six advisers for improving marketing methods of the cooperative societies. Most of these advisers are extension workers trained at the Kasetsart University in Bangkok and in the Philippines. It had organised during September 1971 a seminar on Collection of Maize Practices.

#### No Funds from BAAC

70. The CMPF does not give production credit nor does it have any funds for this purpose. It is not in a position to borrow from the BAAC for the marketing purpose in view of the high rate of interest and the unwillingness of the Bank to provide marketing advance. The CMPF has been incurring losses due to heavy operational expenses and a high rate of interest on the borrowed capital. It is difficult to obtain any funds from the Government for enlarging the scope of its marketing operations.

#### Agricultural chemicals distributed

71. The CMPF distributes agricultural chemicals produced by the Thai-Japan Chemical Company (TJC) in Bangkok. All the agricultural chemicals required by the member cooperatives are distributed through CMPF against a commission. Of the total production of TJC 20% is distributed through CMPF and 80% is sold through private agents. It also distributes fertilizers imported from Japan and during 1972, it expected to distribute 18,000 metric tons of fertilizers to its member cooperatives.

72. The impression gathered by the Study Team concerning CMPF was that it has not yet fully developed into a national marketing federation. It functions only as a sort of procurement agent for the maize to be exported to Japan under the Thai-Japan Joint Committee Agreement.



It has not undertaken any sizeable export of other commodities nor has it investigated so far the potentialities in this direction. It has a very loose link with its members and apart from the bare transactions related to the collection and export of maize, there is no continuity of contracts between the CMPF and its members.

73. The CMPF also suffers for want of funds and unless it widens its base through increased membership and strengthens its financial position through added marketing activity, may not be able to function as the national cooperative federation in the real sense.

Bank for Agriculture and Agricultural Cooperatives (BAAC), Bangkok (Thailand)

74. This Bank has been created to provide production credit to farmers and members of agricultural cooperatives. It has a share capital of  $\text{฿}1,005.50$  million mostly held by the government. Only  $12\frac{1}{2}$  million bahts worth of shares are held by the cooperatives against shares worth 993 million bahts by the government.

75. The number of direct borrowing farmers is more than the number of farmers borrowing through cooperatives - direct borrowing farmers 260,000 farmers borrowing through cooperatives 150,000. For every 2,000 bahts borrowed, the cooperatives are required to buy shares worth  $\text{฿}100$ . The rate of interest is 9%, and on outstanding loans 12%.

Reluctance to lend for marketing

76. The Bank lends mostly for production purposes. We were told that the Bank did not lend for marketing purposes for the following reasons.

- i) Most of the marketing cooperatives were not viable and have been incurring heavy losses. The Bank would be willing to finance the marketing activity if the cooperatives were large and viable.

- ii) The Bank does not have the right to audit the accounts of the marketing cooperatives. The management of the Bank feels that it should have the right for an interim audit if it is to finance marketing activity.
- iii) For want of trained managers the operations of marketing cooperatives are not efficient.
- iv) The leaders also need training in order to rationalise organisational and business structure.
- v) There is a need for more strict supervision of marketing cooperatives.

77. The question of financing the marketing activity of the CMPF was discussed with the Manager of BAAC. The Study Team was informed that the bye-laws of the CMPF do not permit borrowing from the Bank. The Bank management feels that the CMPF is not a truly marketing organisation representing agricultural cooperatives because many of its members are consumer cooperatives. The Bank was willing to finance creation of facilities such as silos, driers, etc. There was an urgent need for evolving a satisfactory arrangement for enabling CMPF to obtain marketing finance from the BAAC.

PART IIRECOMMENDATIONS

78. The Study Team members were very happy that they had the opportunity of visiting cooperatives with different organisational structures functioning in the context of varying economic conditions. The visits to the two provincial federations also enabled the study team to assess the present stage of development of the federal structure at the provincial level and the extent of business and other relationship developed between the provincial federation and their primary member cooperatives. The visits to the Cooperative Marketing and Purchasing Federation and the Bank for Agriculture and Agricultural Cooperatives in Bangkok gave us the opportunity of generally understanding the national structure and the role played by these two organisations vis-a-vis the societies visited by the Study Team in the three provinces.

PRIMARY COOPERATIVESLimited Membership

79. The first impression we gathered from our visits to the various cooperative organisations in the field was that these cooperatives were not in real sense representative organisations of the farm families in the area of their operation. One society has made relatively good progress in achieving these objectives. However, the general situation in all the societies was that the membership base was very weak. In the absence of the support by a majority of the farm households, the societies have not been able to really assess the total agricultural and economic situation in the area and consequently have not been able to service the members in order to meet their total requirements. We, therefore, feel that efforts should be initiated in the very near future towards enlistment of more members so as to make

the cooperatives surveyed by the Study Team broad-based organisations both representative of the area and responsive to the needs of the local farming community.

Not Multi-purpose in Action

80. Another impression gathered during the visit was that the societies were not in a real sense multipurpose cooperatives although most of them claimed to be so. Majority of the societies had been recently reorganised as multipurpose cooperatives and have not yet been able to undertake all the activities which a multipurpose cooperative in the modern sense is expected to do. The result of this haphazard growth is that even though the societies have been instrumental in bringing some benefits to their members by activities in one direction, the absence of supporting services in other fields have taken away most of these benefits from their members. For other services which are not handled by the cooperatives the members have invariably to go to private traders or money-lenders. The Study Team feels that the government, the CMPF and the Cooperative League of Thailand should evolve a common action programme in order to reorganise the structure and services of the multipurpose cooperatives visited by the ICA Study Team and ensure that these cooperatives are able to function as truly multipurpose organisations.

81. We would like to suggest that while reorganising the cooperatives as multipurpose organisations a definite decision should be taken concerning the various departments to be set-up in these societies in the context of their activities. These departments should be entrusted to persons who have both the knowledge and the technical ability to handle the responsibilities entrusted to them and to their subordinates.

Weak Capital Base

82. In view of the limited membership, the societies have a weak capital base with the result that they are not able to obtain sufficient funds for financing production and marketing activities of their members. We assume that increasing share capital will considerably increase the financial position of the societies and will also help them to strengthen their lending activity. Share capital, however, itself will not help in providing sufficient funds as working capital. Also in view of the absence of suitable lending institutions it may not be possible to borrow adequate operational funds from external agencies on the basis of increased share capital. We, therefore, feel that the societies should make every effort to mobilise savings in the rural areas and strengthen their working capital.

Planned Production and Budgeting

83. The societies surveyed by the Study Team function mostly on an ad hoc basis handling their day-to-day problems as and when confronted with them. There was hardly any evidence of advance planning and periodical evaluation of the needs of the members as well as of the performance of the organisation in the fulfilment of such needs.

84. We would like to suggest that the societies give more attention to organising planned production of agricultural commodities by assisting the members through budgeting, farm guidance and farm management. To enable a society to assist the farmers in this direction, it should have its own annual production plan prepared after taking into consideration individual needs of farmer members. We would like to make the following recommendations to this effect.

Agricultural Credit

85.1 During the visit to all the four multipurpose cooperative societies we were informed that the average annual credit needs of the individual farmers were between 10,000 and

11,000 bahts and that the societies were able to meet around 50% of the total requirement. We assume that these estimates of the credit requirement are purely for agricultural operations and do not include the living needs of the farmer and his family until the crops are harvested. This means that the societies are able to meet only a small percentage of the total credit needs of the farmers. Our suggestions in this regard are as follows :

- 85.1.1 The society should make a realistic appraisal of the total needs of the individual farmer for meeting all his expenses including the living wages.
- 85.1.2 We feel that as a pilot experiment, the four societies should meet the total credit needs of all the members for a period of five years.
- 85.1.3 We suggest that the four multipurpose societies should insist that a member receiving adequate credit should enter into a marketing contract with the society to ensure that the total marketable surplus is marketed by him through the society soon after the harvest.
- 85.1.4 Discussions should be initiated with the BAAC to secure necessary funds for meeting the total credit needs of members of the four societies. We suggest that, if necessary, interim audit or supervision of the BAAC should be accepted if it feels that these conditions must be met with before adequate credit is approved for the four societies. It will be helpful if the Bank can agree to a concessional rate of finance for the societies to be covered by the pilot project,
- 85.1.5 The borrowing society should also enter into an agreement with the BAAC. The marketing agreement to be made with the members should provide that the society has the right to collect its loan instalments

directly from the sale proceeds of the commodities marketed on behalf of the members so that the incidence of overdues could be avoided.

### Supply of Agricultural Inputs

85.2 Almost all the societies visited by us supplied agricultural inputs to their members. Most of the supplies were drawn from or through the CMPF. These activities however, need to be strengthened in view of the fact that we have earlier recommended the introduction of farm guidance activities in each of the four organisations. At present the inputs supplied included fertilizers, agricultural chemicals and agricultural implements. We feel that the societies should also provide seeds to the members. In addition, the household requirements of the farmers should also be provided by obtaining them from the wholesale market. It may be possible for the CMPF to secure these supplies and distribute to the member societies. We would like to see these societies supplying the total needs of the farmers both for agricultural operations and for their domestic use.

### Marketing of Agricultural Produce

85.3 We have already referred to some of the major problems faced by cooperative societies in the three provinces in respect of marketing. We have also drawn attention to some of the drawbacks in the organisations surveyed by us and the absence of reliable information concerning marketing operations by competitors in the field. The general impression of the Study Team was that marketing was by far the most neglected activity in the six organisations although it ought to be one of the most important fields of activity for a multipurpose organisation. We believe that these organisations have a good potential of developing into major marketing institutions if a proper coordination is developed among the cooperatives at the local, provincial and at the national

levels and if a faster and more effective communication link is established among them.

Following are our recommendations in respect of marketing.

85.3.1 To begin with, the four primary cooperatives surveyed by us should immediately undertake a survey to determine the total agricultural production in the area and to assess the total marketable surplus as well as the quantity marketed by their members. They should also identify the various channels through which members sell their produce and after interviewing the individual members identify the reasons for their preference for particular channels.

85.3.2 The societies should also collect detailed information concerning trading practices of the traders in the local market, their mode of operations, their links with dealers in Bangkok, their mode of payment to the farmers and the manner in which they collect agricultural produce from the farmers. The society should be aware of any mal-practices followed in the market.

85.3.3 These cooperative societies should also survey the existing facilities in the area of their operations for storage of agricultural produce and the various modes of transporting the produce to the terminal markets. The capacity of storage godowns should also be assessed.

85.3.4 After the above information is collected the societies should study the results of their surveys, and in the context of the problems identified should try to evolve policies and procedures aimed at winning away the members and other farmers from the traders and for establishing facilities and procedures for marketing increased volume of agricultural produce.

85.3.5 We feel that the four multipurpose societies alone will not be able to do the above survey. It will be necessary for the CMPF and the Cooperative Department to provide



the services of an expert to assist the societies during the initial period. After collecting the information the expert should process the information and make available to the societies the findings of his enquiry.

85.3.6 Each of these societies should have a market research and intelligence department. The main responsibilities of this department should be :

- i) to collect upto date market information,
- ii) to collect data concerning prices,
- iii) to compile information concerning all markets which handled these commodities and
- iv) to process the information and data for the use by the management of the society.

85.3.7 The marketing societies should have at least the minimum necessary facilities for receiving agricultural produce, storing it for short duration, drying it if necessary, grading and for transportation. If these facilities are available with the provincial federations and if some of these facilities can be used by the primary societies, it would not be necessary for the multipurpose societies to themselves own these facilities.

85.3.8 The marketing management should be in the hands of a person who is trained for such a job and his decision concerning all marketing operations should normally be respected. We would like to suggest that there should be a proper division of responsibilities between the marketing manager and the manager of the society. If the manager of the society himself is also in charge of marketing then we would like to suggest that the division of responsibility should clearly be marked between this manager and the non-official leaders of the society.

### Standardised Accounting

85.4 With a view to enable all the societies, their federations and the CMPF to effectively deal with each other, and to facilitate the exchange of information and accounts, we suggest that a standardised accounting system should be introduced in the four societies. Suitable forms for such accounting system should be developed by the CMPF in consultation with the Cooperative League of Thailand and distributed to the societies and the two provincial federations. This system could later be extended to other societies in the country.

85.4.1 The societies should have trained personnel for accounting, inventory control and financial management. Such staff is indispensable for maintaining systematic accounts, for controlling stocks and for ensuring proper recycling of funds round the year.

### Improved Communication with Members

85.5 The society should develop close communication with their farmer members. This should be done through periodical meetings, through publicity and through periodical communications sent from the societies advising the members on production, supply and marketing operations. Our visit gave us the impression that people in the rural areas in Thailand had easy access to communication facilities such as radio and television. We feel that the CMPF and the Cooperative Department should explore the possibility of using these mass media for educating the farmers and cooperative members. Programmes concerning agricultural cooperatives should be broadcast on radio and television and these programmes should be prepared in consultation with the CMPF and the provincial federations.

### Develop Model Societies

85.6 We feel that the six organisations visited are basically sound institutions and given the proper opportunities

and support, should be able to develop into full-fledged multipurpose business institutions responsive to the needs of their members. These institutions can also become in due course models for being copied in other parts of Thailand so that measures and reforms, initiated in these organisations, will have a multiplier effect in other areas to the greater advantage of the cooperative movement as a whole.

### PROVINCIAL FEDERATIONS

#### Marketing and Management Practices

86. Reference has already been made to the present state of marketing and management practices of the two federations visited by us namely the Nakornratchasima Cooperative Federation and the Chainat Cooperative Federation. As stated earlier, the two federations have a long way to go in achieving their objectives of becoming the central cooperative institutions for the respective provinces through their supply and marketing link-up with the primary cooperatives on the one hand and with the CMPF on the other. The two federations would not be in a position to offer effective support services and facilities to the primaries unless they widen their membership base. We suggest this should be done in the near future.

#### Need for Market Research

87. These federations should have an important department for market research and intelligence which will not only assist them in these two subjects but also help the primary member organisations in strengthening their marketing research and information services. The present position of the organisations in this respect is so unsatisfactory that unless they inform themselves of the happenings in and around their areas of operation it will no

longer be possible for them to function as effective processing and marketing agencies. These federations should also have specialised staff for different functions such as accounting financial management, inventory control and cost accountancy.

#### Two-way, Fast Communication System

88. The federations should be in continuous touch with the primaries societies and, as far as possible, should be linked-up with them by telephone so that continuous consultations are possible concerning supply and marketing operations. We do not believe it is adequate for a marketing organisation to communicate through letters when it comes to reports on prices, availability of stocks and the demands in different markets. The postal channel should be used only for sending periodical market reviews and price charts.

#### Sales Organisation

89. The two provincial federations should maintain a staff responsible for sales promotion. The sales staff should not only organise sales of agricultural produce to the markets but should also assist the primary cooperatives in their sales promotion. The sales staff should be responsible for periodical price survey in different markets so as to pin point the most beneficial channel for marketing the produce of the federations as well as that of their member societies.

#### Performance Evaluation

90. The provincial federations should as far as possible collect the agricultural produce from the primary societies and market it in the most profitable manner. Only where, because of the distance or because of the unavailability of market outlets at higher levels it is not practical to do so, should the primary societies be left on their own to sell

the produce of their members. There should be periodical meetings for evaluation of the marketing activity among the primary societies and the federations so that proper policy formulation for future tasks would be possible.

Cooperative Marketing & Purchasing Federation of Thailand (CMPF)

91.1 During our visit to most of the primary cooperative societies, we gathered the impression that the societies were not at all very happy about the present role played by the CMPF in assisting them in their marketing operations. Almost all societies wanted the CMPF to be more dynamic in its marketing activities. They desired that the CMPF should look after all their marketing problems rather than deal in a very restricted manner only in matters connected with maize exports. Following, therefore, are our suggestions aimed at strengthening CMPF's role as a federal marketing organisation.

91.1.1 In order that the CMPF plays its role fully as a national federation for marketing and purchasing, we suggest that it should be reorganised as a purely agricultural marketing federation with membership support from most of the cooperative societies engaged in marketing of agricultural produce.

91.1.2 The CMPF should have major departments dealing with marketing research, cost accountancy, financial management, inventory control and publicity. The heads of these departments should be persons with high level qualifications in their respective fields. Apart from handling their tasks in the CMPF, these departments should become the source for information and advice to the provincial federations and the primary societies in all aspects of marketing and allied activities.

- 91.1.3 The CMPF should have a group of supervisors for periodical visits to the societies in the fields and for providing advice to them on their day-to-day problems. These supervisors should function as a link between the CMPF, provincial federations and the primary societies.
- 91.1.4 The CMPF should handle all commodities which are marketed by the primary societies as well as by the provincial federations.
- 91.1.5 It should establish speedy communication links with the member organisations. If possible, a telex network should be established. Information concerning demand in the market, the prices and the time for delivery of the produce by member societies should be communicated to them by telephone or telex and not by letters. We suggest that fixed time daily trunk telephone calls (time calls) should be permanently booked to each of the organisations dealing with CMPF so that delay in booking the call is reduced and a regular market check is assured. This link will enable all the societies to be in constant touch with each other and also to take marketing decisions without much delay.
- 91.1.6 The CMPF should rationalise the use of its warehouse and driers so as to reduce the handling costs. Most of the societies visited by us complained of high costs of handling charged to them by CMPF. We suggest that unnecessary stocks should not be accumulated by the CMPF. A speedy communication method suggested above will reduce the need for keeping unnecessary stocks.
- 91.1.7 We feel that the CMPF should operate a fleet of trucks for transporting agricultural commodities from rural areas to Bangkok. These trucks should also be used for sending agricultural inputs and other

supplies to the rural areas. We believe that these trucks, coupled with transport facilities owned by provincial and primary societies, will increase the independence of cooperatives for transporting their produce.

91.1.8 We suggest that the CMPF should consider introduction of improved packaging methods for agricultural produce. It should also consider using packaging materials other than gunny bags for transportation of grain.

91.1.9 We observed that the CMPF took more than two months to settle accounts with the primary societies delivering maize for export. This is a very unhappy position and we feel that this period should be reduced to 15 days. As a marketing organisation the CMPF should be prepared to take risk and should have sufficient market intelligence to determine the purchase price in advance. As far as possible it should start outright purchases of the produce of member societies so that the societies do not have to wait for receiving final accounts for the goods delivered for export.

91.1.10 We recommend that in order to absorb shocks arising out of periodical losses to primary cooperatives, a Price Stabilization Fund should be created in the CMPF with contributions from member organisations, from government and if possible from the Bank for Agriculture and Agricultural Cooperatives. Losses incurred because of market fluctuations should be met out of this fund. A certain percentage of turnover of each society should be credited to this Fund from year to year.

91.1.11 With a view to discuss all problems of marketing and to make a periodical evaluation of performance by cooperatives and in order to provide advice for future guidance, we suggest that a Marketing Consultative Committee be established in the CMPF. Apart from CMPF, this Committee should have as its members, the Deputy Director for Credit and Marketing in the Department of Cooperative Promotion, a representative of Bank for Agriculture and Agricultural Cooperatives, a representative of the Cooperative League of Thailand and at least two representatives of the Cooperative Marketing societies in the provinces. We suggest that at least one representative of the cooperatives should be from the three provinces surveyed by the ICA Study Team.

92. The manner of selecting the representatives should be evolved by mutual consultation. However, we feel that a system could be evolved which can ensure representation to all the provinces in rotation. This committee should meet at least every two months and should lay down the policies and procedures for marketing operations for a period of the next two months. Emergency meetings of the committee should also be held, if necessary. The CMPF and all other agencies and departments involved in marketing operations should generally formulate their policies in line with the recommendations of the Consultative Committee. Any cooperative society or any member of a cooperative should be free to send to this Committee points for its consideration.

#### Finance for Marketing

93. A common problem faced by almost all cooperatives visited by us was the shortage of operational funds. This problem arose partly due to the weak capital base of these cooperatives and partly due to the unavailability of funds from the lending institutions. We understand that the CMPF



gives advances to marketing organisations to enable them to pay to the producers marketing advance in anticipation of final settlement of accounts for commodities delivered for export. However, the funds at the disposal of the CMPF were far short of the total requirements. In spite of the advance credit facilities provided by UNICOOPJAPAN, it has not been possible for the CMPF to meet the total requirements of marketing finance. In the earlier paragraphs of this report we have recommended several additional tasks for the CMPF which, if undertaken, will entail mobilisation of additional resources and we do not feel that the CMPF by itself will be in a position to raise funds to this extent.

94. When the team visited the Bank for Agriculture and Agricultural Cooperatives we gathered the impression that the Bank was not unwilling to finance marketing activity. Its reluctance to do so was due to the basic weaknesses prevailing among cooperatives handling marketing and because of the present organisational structure of the CMPF. After examining the present sources for obtaining working capital for cooperative marketing, we arrived at the conclusion that the BAAC is the only institution which can provide adequate operational funds for these societies. We, therefore, recommend that the BAAC should examine the possibility of providing operational funds to CMPF, to the two provincial federations visited by us and to the four multipurpose cooperative societies we have surveyed in Thailand. Marketing finance to these societies should be given as a part of the pilot experiment in order to gain experience for extending the Bank's lending operations to other societies.

95. We recommend that the CMPF and the Department of Cooperation should discuss with the BAAC the detailed procedures that need to be evolved for ensuring the proper utilisation of funds provided by the Bank and we feel that if necessary BAAC should be permitted to audit the societies which would borrow from it funds for marketing.

96. The guarantee for repayment of the loans to be taken by the multipurpose societies, the provincial federations and the CMPF should be provided by the Government for a period of five years. We hope that after this period the need for such a guarantee would not arise and the normal guarantee provided by the respective institutions should be adequate to ensure repayments to the Bank from year to year.

97. We had discussed with the societies visited by us the question of borrowing from the BAC. One of the reasons for their unwillingness to borrow from BAC was the high rate of interest charged on loans for marketing operations. We recommend that the Government of Thailand should subsidise the rate of interest for a period of five years and provide soft loans with interest rate not exceeding 5% to the cooperatives surveyed by us.

98. In addition to the finance which may be made available by the BAC we suggest that the CMPF should explore the possibility of obtaining operational funds, wherever possible, from the commercial banks in Thailand.

99. The overall aim of arranging marketing finance should be to ensure that the societies are able to secure timely credit for marketing at a reasonable rate of interest.

#### Input-Output Management

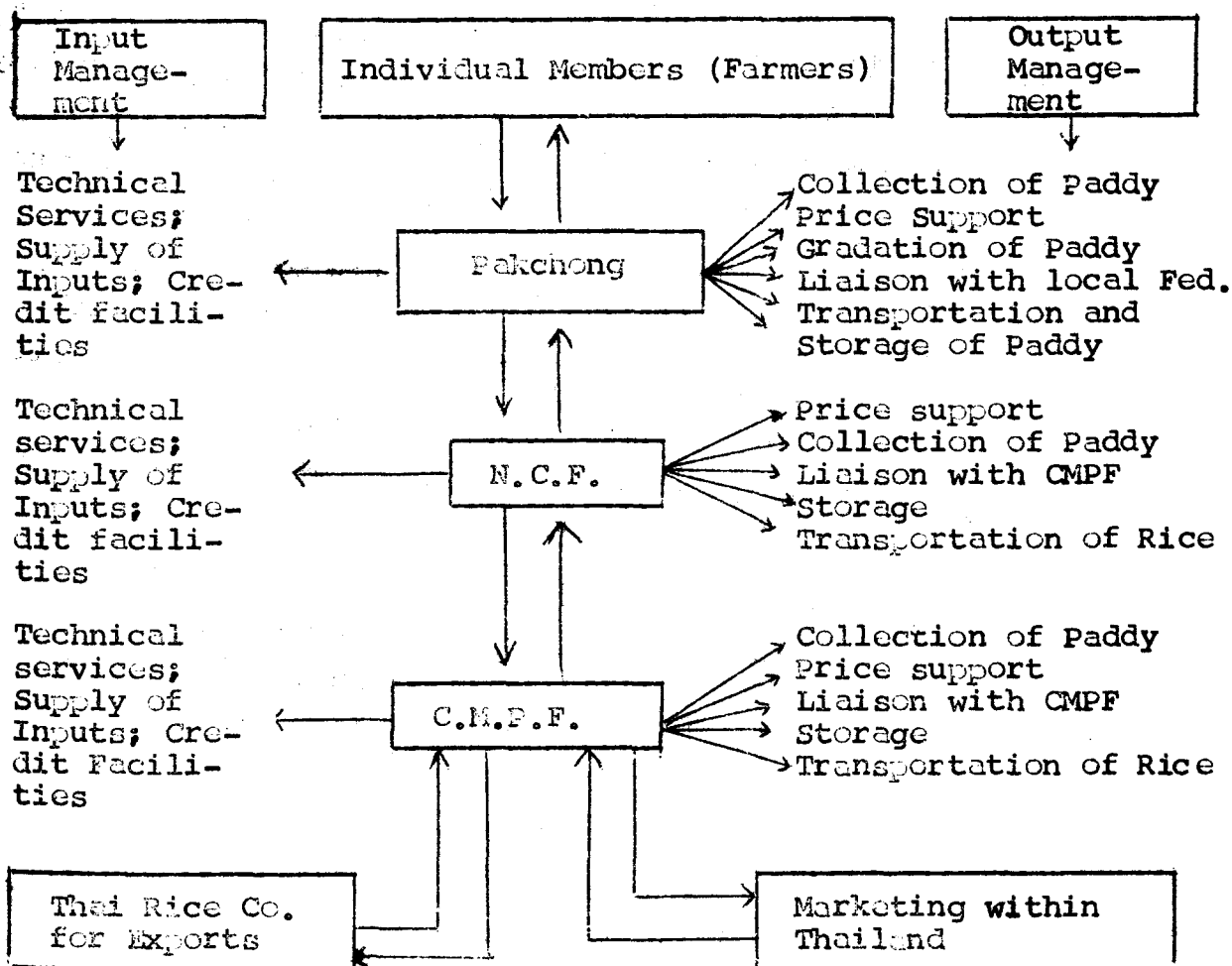
100. References have already been made at several places concerning the need for streamlining the management structure of cooperatives at different levels and of evolving a uniform system of accounting in the societies. We would like to stress that in the absence of scientific management of the entire cooperative activity it will not be possible for them to make marketing a viable proposition even if the total volume of their business has been increased and they are able to procure enough funds for working capital.

101. Following are the four areas in which scientific management needs to be introduced :

- i) inventory control and management;
- ii) financial management;
- iii) cost accountancy; and
- iv) input-output management.

102. There needs to be developed a cooperative input-output management as given in the chart below to provide a two-way communication - at one end the individual farmer all over the country and at the other the CMPF in Bangkok. In between the farmer-member and the CMPF the provincial federations would provide the intermediate link. Each of these organisations would be expected to provide services listed under the two headings namely input management and output management.

COOPERATIVE INPUT-OUTPUT MANAGEMENT MODEL



### Management by Government Staff

103. We observed that in a number of societies the government officials worked as managers of cooperative societies at the provincial and the primary levels. These officials have rendered very useful service in the day-to-day management of the societies and have given leadership for evolving business policies. However, we feel that management by officials of the government should be withdrawn from these societies and replaced by specialised personnel in the respective fields. The government official should be readily available for advice and supervision only when it is absolutely necessary.

### Training

104. As will be seen from the previous paragraphs, emphasis has been laid on management by persons trained for the purpose. Specialised jobs should be entrusted only to persons trained in their respective fields. The Cooperative League of Thailand should undertake the entire responsibility for training the personnel mentioned in our report. In collaboration with Cooperative Department it should organise training courses for technical personnel working in the primary and the provincial level cooperatives and the programme for this training should be drawn up in consultation with the CNPF. The Cooperative League of Thailand should invite lecturers from cooperative business organisations to ensure that training is given by the most qualified persons in the respective fields.

105. The League should also organise educational activities for non-official leaders working in the cooperative societies. In this programme emphasis should be on discussions relating to organisational and leadership problems.

106. Arrangement should be made to secure training facilities in IDACA for the technical personnel working in the four primary societies, the two provincial federations and the CMPF. This training programme should be evolved to suit the specific requirements of the management staff working in the above societies.

#### Creation of Facilities

107. Out of the six societies visited by us three organisations had their own rice mill and godowns. These facilities were created from out of the soft loans provided by the Department of Cooperation. These loans given at 2% per annum rate of interest are to be repaid over a period of years.

108. The ICA Study Team had the feeling that some of the rice mills have been established without proper examination of their viability. Three organisations were utilising the rice mills much below the average capacity. There was also a sort of duplication of effort in the Nakornratchasima province. We noticed that although the rice mill with a large capacity owned by the provincial federation could not operate to full capacity, the neighbouring Soongnern Cooperative Society had also established a rice mill which also did not function to its full capacity. We suggest that the question of avoiding duplication in establishing rice mills should be thoroughly examined and uneconomic units should either be closed or should be transferred to a central organisation which could provide the milling services to the entire area.

#### Uniform Quality of Rice

109. We have not been able to establish the exact reason for the high percentage of broken rice coming out from some of these rice mills. This is a technical problem and needs to be tackled by the government. We were informed that owing to the high percentage of broken rice the Thai

Rice Company was unwilling to accept it for export. We recommend that the societies should be assisted in improving their processing standards so that maintenance of a uniform quality would be assured.

110. We suggest that the primary societies should have a small godown and a drier to remove moisture from the grain delivered to them. To begin with, we would like to recommend that the Sawangkalok Cooperative should be given a drier to remove moisture from the corn and other grain sent to Bangkok. As Sawangkalok is located far away from Bangkok it is necessary for the organisation to have the drying facilities.

111. We recommend that the Pakchong Cooperative should have a godown for storage of corn and other grains. This cooperative should not send its grains to Bangkok market as soon as it is delivered by the members. It should await favourable market trends and send the grain only when prices and other conditions are favourable. Even though Bangkok is not far away from Pakchong we feel that the creation of this facility will help the society in obtaining better prices for its members and also reducing the costs of storage in Bangkok. We also recommend that the Pakchong society should own a drier in order to reduce wastage and the transport costs to Bangkok.

112. In case Khuen Chaophya Cooperative undertakes marketing operations it should also gradually own drying and storage facilities to increase its effectivity in marketing operations.

#### CALTHAI Facilities for Storage

113. During our visits to Thailand we observed that a company known as CALTHAI has created silos and storage facilities in many parts of the country. Some of these silos are located in the area of operation of the societies

surveyed by us. Most of these silos have not been used by the farmers due to the high cost of storage and drying charged to them. We suggest that the possibility of cooperative organisations using these silos should be examined.

#### Recommendations to the Government

114. The Government of Thailand in the Department of Cooperation should assist the cooperatives surveyed by us in the following manner :

- 114.1 It should assist in securing the services of an expert in farm guidance and management.
- 114.2 It should persuade the Bank for Agriculture and Agricultural Cooperatives to provide funds for agricultural cooperative marketing.
- 114.3 It should assist the CMPF in its reorganisation and in strengthening its marketing activities.
- 114.4 It should contribute to the Price Stabilisation Fund as suggested by us.
- 114.5 It should fully cooperate with the activities of the suggested Marketing Consultative Committee to be established in the CMPF.
- 114.6 It should assist the marketing cooperatives in creating facilities such as godowns, driers and others, and
- 114.7 It should facilitate the training of technical personnel working in the marketing organisations.

#### Recommendations to the Cooperative League of Thailand

115.1 As suggested earlier the Cooperative League of Thailand should organise training and education programmes for employees and leaders of the marketing cooperatives. If in certain areas training could not be provided in Thailand,

the League should secure technical training facilities in other countries.

115.2 The Cooperative League should help the societies and the C.M.P.F. in preparing forms and other materials for maintaining standardised accounting.

115.3 The Cooperative League should call a meeting of all the concerned persons to study the recommendations of the I.C.A. Study Team and evolve a course of action for the implementation of these recommendations if these recommendations are acceptable to the parties concerned.

#### Recommendations to International Organisations

116. International organisations interested in cooperative development should extend their assistance in the following manner :

116.1 in securing services of experts;

116.2 in securing facilities such as driers, godowns, etc. and

116.3 in securing training facilities abroad.



SURVEY OF  
COOPERATIVE AGRICULTURAL MARKETING PROJECTS  
IN SOUTH-EAST ASIA

PART III

MALAYSIA

SURVEY OF COOPERATIVE AGRICULTURAL MARKETING  
PROJECTS IN SOUTH-EAST ASIA

PART III

117. Malaysia consists of the Federation of Malaya (West Malaysia), Sabah and Sarawak. Total land area is 127,316 sq.miles with a population of 10,434,034. The capital city is Kuala Lumpur.

118. The percentage of GDP from agriculture during 1972 was 21.1 and the per capita G.N.P. during the same year was US\$415 (one of the highest in South-East Asia). About 1,200,000 persons are employed in agriculture. Total area under agricultural crops in West Malaysia during 1969 was 7.3 million acres (including 238,130 acres of second season rice crops). The main crops in West Malaysia are rubber, rice, oil palm, copra and tea. Other crops, which are being encouraged under a programme of diversification of agriculture include maize, soybean, tapioca, groundnut and others.

Planned Economy

119. Malaysian economy is dominated by plantation crops and its performance is closely linked to production and exports of these crops. Declining rubber prices and growing imports have been instrumental in reducing the balance of payments during the last three years.

120. Malaysia has a planned economy. The Second Malaysian Plan was started in 1971 and is expected to be completed during 1975. The main objectives of agricultural development under the Plan are :

120.1 to increase employment opportunities through the exploitation of Malaysia's land, water and timber reserves;

- 120.2 to raise worker incomes by increasing productivity and the scale of operation; particularly among more traditional activities where incomes are lower than in other stores;
- 120.3 to expand the range and quantity and improve the quality of agricultural products, particularly foodstuffs (including fruits and vegetables) commercial crops and livestock products; and
- 120.4 to strengthen institutions such as Farmers' Associations which promote fuller participation of rural residents in the economic and social life of the nation.
121. In West Malaysia alone government plans to expand annually employment opportunities by at least 1.7% or by an average of 25,000 jobs per year.

#### New Development Agencies

122. In order to facilitate the implementation of development plans, the government has created the following federal authorities in the agricultural section.

- i. Federal Land Development Authority (FLDA)
- ii. Federal Agricultural Marketing Authority (FAMA),
- iii. Malaysian Agricultural Research and Development Institute (MARDI),
- iv. Federal Industrial Development Authority (FIDA),
- v. National Paddy and Rice Marketing Authority (LPN),  
and
- vi. Majlis Amanat Ra'ayat (Agency to assist Malays and others to assist in developing commerce and industry (MARA).

122.1 The Study Team Members visited FAMA and MARDI during their stay in Malaysia.

### Cooperatives In Malaysia

123. Malaysia has over 3,000<sup>s</sup> cooperative societies with a membership exceeding 500,000. Out of these 180 are thrift and credit societies with a membership of 200,000. The membership ratio is not so high in case of rural cooperative credit societies. The 1,600 over rural credit societies have only about 60,000 members. Efforts are now being made to reorganise these societies into multipurpose organisations with a view to make them viable.

124. The other types of cooperative societies are Thrift and investment (80), Employees credit societies (180), Processing, farming and marketing societies (640), Housing (60) Transport (30) and Consumer (180) societies. There is also a National Land Finance Cooperative Society which was established in 1960 to mobilise savings from among plantation workers with a view to purchase plantations available for sale in the country. This society has already bought more than 28,000 acres of plantations worth MS\$4 million. During 1970 the membership of this society was 65,400, their share capital MS\$12 million and the profits made by the society amounted to MS\$2,500,325. The estates owned by society include rubber, coconut and oil palm estates. The society has not only enabled the plantation workers to own their estates, but also initiated several measures to provide housing, education and health facilities for members and their families.

#### Malaysian Apex Cooperative Bank (Kerjasama Malaysia Berhad)

125. This bank, originally started in 1955 and later reorganised during 1968, functions as the financing agency for production and marketing of rice and other crops.

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<sup>s</sup> Introduction to the Malaysian Cooperative Movement by N.A. Kularajah

95% of the marketing advances are given for rice marketing arranged by the National Paddy and Rice Marketing Authority under a monopoly procurement scheme. The Bank has recently taken over two rice mills which were formerly operated by cooperatives.

126. A majority of its members are individuals viz. 8,000, while only 950 cooperatives have so far joined the Bank. We were given to understand that quite a number of rural cooperatives are dormant and 65 to 70% of the active cooperatives are already members of the Bank.

127. The Bank is able to meet 10% of the total credit requirements of the farmers. 60% of its loans are for production and 40% for marketing and processing. It does not give long-term credit. The Bank has 9 branches and is planning to open a few more branch offices in some remote parts of the country. Three-fourth of the Board members are from cooperatives and one fourth represent individual members. There are three government nominees.

#### The Central Cooperative Bank (CCB)

128. This Bank, which was established during August 1958, is the apex banking institution for urban cooperative societies. It has been instrumental in mobilizing individual savings and investing the surplus resources in cooperative development effort. Since 1968, it is doing general banking business also. In addition to loans on individual securities, the Bank gives long-term housing loans to the extent of two-thirds of the total cost of the house. It also advances loans for hire-purchase schemes operated by the Malaysian Cooperative Agencies Society. The CCB is playing a very important role in the development of housing and other urban cooperative development projects.

129. The Bank has 102 cooperatives and, 4,878 individual as its members.

Malaysian Cooperative Insurance Society (MCIS)

130. The Malaysian Cooperative Insurance Society (MCIS) is the biggest and financially the strongest cooperative organisation in Malaysia. Started in 1956 the MCIS has now risen to the present position of a dynamic institution responsible for very effective mobilisation of savings and for remunerative investment schemes in the country. During 1971, MCIS had 63,612 policy-holders and its total assets were at MS\$48,280,551. New business for life insurance alone during the year was to the tune of MS\$91,443,461.

131. The society undertakes life, fire, accident and motor insurance. It has a Home service Scheme for low-income groups which covers life insurance, accident and hospitalisation. It has introduced many investment schemes including housing, oil palm estates and has played a very important part in establishing and developing important enterprises such as Cooperative Printing Press, Cooperative Automobiles Malaysia (CAM), Malaysian Cooperative Agencies Society (MCAS) and Malaysian Cooperative Industrial Development Society (MCIDS). The last society was established in 1971 to mobilise surplus resources in the cooperative movement and to channel them into industrial and agricultural development projects.

132. MCIS has also established joint ventures with foreign companies in oil palm, electric motors, spark plugs, sugar and safety glass manufacture.

133. There is also in Malaysia a Federation of Housing Cooperatives (established 1957).

MEETINGS WITH COOPERATIVE LEADERS AND OFFICIALS AND  
VISITS TO AGRICULTURAL MARKETING & RESEARCH ORGANI-  
SATIONS

Mr N.A. Kularajah, Chairman,  
Cooperative Union of Malaysia and General Manager  
Malaysian Coop. Insurance Society (MCIS), Kuala Lumpur

134. The Study Team members called on Mr Kularajah to discuss present position of the cooperative movement with special reference to current problems, and to identify the areas to be studied by the Team.

135. Mr Kularajah explained to Team Members the salient features of the Cooperative Movement in Malaysia and said that the characteristics of the Movement in his country differed a great deal from those in other countries. He suggested that the Team should examine certain areas which could be developed by utilizing the available resources within the cooperative movement. The All-Malaysian Cooperative Conference organised by the Cooperative Union of Malaysia in 1972, he said, has passed a resolution calling upon cooperatives to play their role in the implementation of the Second Malaysian Plan.

136. A number of projects have already been initiated. The Malaysian Cooperative Industrial Development Society (MCIDS) has created a base for undertaking economic ventures with share capital participation by cooperative societies. The overall objectives of the new policy was to promote industrial and agricultural development and the specific objectives were to :

- i) generate employment opportunities and
- ii) to improve standard of living of those involved in these projects.

137. Mr Kularajah further requested the Team to study possibility of creating agro-industries which will undertake both production and processing of raw material. He added that land, capital and trained man-power were available in the country, if necessary, a few persons can be sent abroad for training. Power supply was satisfactory and roads were fairly good in all parts of the country.

138. The Team agreed to examine the present position of production and processing of alfalfa, corn (maize), sorghum and tapioca and make suitable recommendations to the Cooperative Union of Malaysia.

Mr Yob Bin Busu, Director-General of Cooperatives in Malaysia

139. The Director-General emphasised the role of cooperatives in developing agro-industries. He said the Prime Minister was keen on such development. Although a few cooperatives have started agro-based industries, most of the important areas were still in private hands.

140. As creation of additional employment opportunities was an important objective of the Second Plan, he felt it was necessary for cooperatives to undertake ventures to create such opportunities. Mr Busu suggested that the Team should examine the possibility of establishing agro-industries with raw materials such as tapioca, alfalfa and maize. He was also very keen to explore possibilities of establishing trade contacts with cooperatives in other countries.

Mr G.S. Dass, General Manager, Central Cooperative Bank Ltd. Malaysia

141. Mr Dass, who had earlier been working with the cooperative Department for several years explained to the Team members the background of the Malaysian Movement. He said that the Movement, which was greatly influenced by the Indian Movement, was limited upto Second World war to thrift



and credit activity. However, during the post-war period consumer, housing and other cooperatives were organised. The experience of the consumer cooperatives however has not been very satisfactory and most of them were dormant. Rural cooperatives, he felt, were not very successful owing to illiteracy and the difficulties in recovering loans. In urban societies, the problem of recovery was almost non-existent as most of these societies were organised among professional groups and loan instalments were deducted from pay registers. Mr Dass also explained the working of the CCB to Members of the Team.

Mr S. Selvadurai, Director of Economics and Statistics,  
Ministry of Agriculture and Fisheries, Government of Malaysia

142. The meeting with Mr Selvadurai enabled the Team to acquaint itself with the present priorities in agricultural production and obtain information concerning future possibilities.

143. Mr. Selvadurai said that cooperative diversification schemes have been given high priority and necessary experiments were being carried out for testing suitability of soil and climatic conditions for different types of crops. He felt that growing of maize does not seem to have much prospects in Malaysia. Experimental production on 2,000 acres in the newly reclaimed Trengganu area did not bring good results and the farmers were already switching over to other crops.

144. Alfalfa is grown in Johore; however, climate is not very suitable and it is too early to think of large-scale production. The Malaysian Agricultural Research and Development Institute, he said, was conducting experiments for cultivating alfalfa.

145. Mr Selvadurai mentioned several studies carried out by expert Teams concerning production and processing of tapioca. According to these studies, prospects for large-scale production and processing of tapioca were bright and there was good demand for tapioca products in foreign markets.

Federal Agricultural Marketing Authority (FAMA)

146. FAMA deals both with cooperatives and farmers associations and the main commodities handled by it are fish, pepper and coffee. It issues licences to cooperatives and farmers associations for dealing in these commodities. These organisations receive the same priority in licencing as any government agency. FAMA does not so far handle grain or other similar agricultural commodities.

Malaysian Agricultural Research and Development Institute (MARDI)

147. MARDI is a recently created institute for the purpose of agricultural research and experimentation. The Team had the pleasure of meeting a number of scientists at the Institute and discussing with them the prospects for various crops on which the Institute was at present experimenting. The Team Members also visited several plots where maize, sorghum and alfalfa are being cultivated on experimental basis. The Team gathered the following impressions concerning the above crops.

Alfalfa

148.1 Alfalfa was being cultivated on an experimental basis. In MARDI only lucerne grass was being experimented with. Although two private companies are at present cultivating Napier and Guiana varieties of grass. In Tregannu and Pahang areas such grass is grown on a larger scale.

148.2 Experts at MARDI did not consider alfalfa as a very suitable crop although other types of grasses could be grown but with low yield and smaller percentage of protein. No proper analysis has so far been made regarding alfalfa cultivation in Malaysia.

#### Maize

149. Maize also has been cultivated only on experimental basis and has not so far found favour with farmers. Under the Asian Corn Programme, Metro variety of maize was grown but results of experiments are still awaited. The Ganga Five variety from India, cultivated on experimental basis, has given fairly good results.

#### Sorghum

150.1 Sorghum is cultivated in scattered areas on experimental basis and most of the seeds are imported from India. No study has so far been made regarding its pests and other diseases.

150.2 Both maize and sorghum need large-scale cultivation. Malaysian land has too high undulation with the result that soil erosion is a major problem. Also, Malaysian soil has high acidity which is not the case with soil in Thailand where corn is grown on a very large scale. For these crops a maximum of 0 to 6 degree slopes are desired.

#### Tapioca

151. Tapioca is grown in several provinces in Malaysia. The yield is the highest in the world. The soil suitable for tapioca viz. holyrood soil, is available in many parts of the country. Large-scale processing factories have already been organised. There is, therefore, a very good scope for tapioca cultivation and processing in Malaysia.

152. Our visits to various cooperative institutions, government departments and the observation tours to experimental farms have enabled us to get a fairly clear picture of the present development trends in Malaysia in respect of agriculture and the priorities fixed for future. Our interviews with top-level cooperative leaders and senior government officers helped us to identify commodities which could be surveyed by the Team.

153. The first general impression we gathered was that it may not be possible for the ICA Study Team to do the marketing survey in Malaysia in the same manner in which it was done in Thailand. We were informed that the base for carrying out the marketing survey does not exist in view of the weak cooperative structure in rural areas and also because of the existence of a number of government agencies which were already trying to assist in marketing development.

154. The current five year Malaysian Development Plan puts emphasis on diversification of crops in agricultural development. The overall purpose of the Plan is to create additional employment opportunities thereby increasing living standards of the population. The President of the Cooperative Union of Malaysia and the director-General of Cooperatives were both very keen that the cooperatives play their part in creating employment opportunities through the establishment of agro-based cooperative industries in the country. The Team members, therefore, were convinced that survey in Malaysia should centre around the creation of agro-industries and the marketing of products processed in these industries.

#### Strong Organisational Base

155. In the non-agricultural sector of the cooperative movement in Malaysia, several secondary organisations have made tremendous progress in the direction of mobilisation of savings and using the accumulated capital for establishment of

economic ventures. Fairly well-trained managerial personnel are available in the country to run various industries. The MCIS has already established, either on its own or in collaboration with others, economic enterprises such as printing press, auto-workshop, electric motor manufacture and sugar and oil palm processing. A new society named Malaysian Cooperative Industrial Development Society (MCIDS) has been created to manage most of the new economic ventures.

#### Commodities Examined

156. On the basis of the discussions with various individuals, the Team examined the following four commodities which could form a base for the establishment of agro-based industries in Malaysia.

#### Alfalfa

157. Alfalfa is not grown in Malaysia anywhere as a commercial crop although Napier and other varieties of grasses are grown by some entrepreneurs. These grasses are mostly grown in Tregannu and Pahang areas. We are inclined to agree with the experts at MARDI that the Malaysian soil is not very suitable for commercial production of alfalfa. Also, there was no scientific analysis of the results of alfalfa cultivation to determine its feasibility. We do not therefore recommend any action by the cooperatives for cultivation or processing of alfalfa.

#### Maize and Sorghum

158. Both crops are grown on experimental basis. In the case of maize, trial cultivation on 2,000 acres did not bring good results and farmers seem to be changing over to other crops. The experiments carried out so far suggest that Malaysian soil is not very suitable for large-scale cultivation of maize and sorghum. The Malaysian soil has much

larger acidity percentage and the undulations of the land are rather high. We, therefore, feel that at this stage it will not be advantageous to undertake large-scale cultivation of maize or sorghum by cooperatives in the country.

### Tapioca

159. Tapioca is an established commercial crop in Malaysia with several processing plants already converting tapioca roots into starch, pearls, chips and pellets. Most of the processing plants are concentrated in the States of Perak, Wellesly and Kedah. In spite of the large number of processing factories operating in the country there is not much organised cultivation of tapioca with the result that most of the raw material for these factories is obtained from small-scale cultivators.

### Agro-Industrial Unit for Tapioca

160. Taking into consideration all arguments for and against tapioca cultivation and also considering the fact that in Malaysia the yield per acre for Tapioca production is the highest in the world, we recommend that tapioca should be selected as the commodity for an agro-industrial venture by cooperatives in the country. Following are the main arguments to support this recommendation :

- i) Government of Malaysia is keen to promote diversification of agriculture with a view to create additional employment opportunities,
- ii) The cooperatives in Malaysia are keen to participate in the government effort to create employment opportunities by establishing agro-based industries.
- iii) The cooperatives have already created a suitable infra-structure for undertaking such economic enterprises.

- iv) The cooperatives have sound capital base and can give strong financial support to the new venture,
- v) Tapioca is already grown on a commercial scale in Malaysia,
- vi) The yield per acre in Malaysian tapioca cultivation is the highest in the world,
- vii) Holyrood soil which is the most suitable soil for tapioca cultivation is available in many states and particularly in Perak, Perlis and Pahang provinces,
- viii) Malaysia is already an exporter of tapioca products and there is a growing overseas demand for these products,
- ix) For domestic consumption in Malaysia tapioca chips can replace maize in feed industry and thus reduce maize imports, thereby saving foreign exchange, and
- x) It may be possible for cooperative organisations to establish subsidiary industries with tapioca by-products such as cattle feed mills, biscuit manufacturing units, and products such as glucose, dextrin, monosodium glutamate, etc.

161. Following is our proposal (as a pre-investment study) to the Cooperative Union of Malaysia for the establishment of facilities for cultivation, processing and marketing of tapioca and tapioca products. Once a decision is taken concerning the establishment of this agro-industry, a more detailed technical feasibility study will have to be made in the context of the available land and capital as well as in accordance with the prospects of marketing the products both in domestic and foreign markets.

BACKGROUND INFORMATION

(Unless otherwise mentioned all amounts in Malaysian Dollars)

162. Tapioca is known by various names throughout the world (e.g. manioc, cassava and yuca). Originally indigenous to Central America and Brazil, in the sixteenth and seventeenth centuries it was spread by explorers and traders to other tropical and sub-tropical areas. Tapioca grows as a half-shrub and develops below the surface of the earth in the form of tubers and its economic maturity ranges from five months to two years, allowing it to be used as needed. These tubers are starchy in nature with rough outer skin or bark. However, a typical tapioca root composition is as follows :

Moisture	70.25
Starch	21.45
Protein	1.12
Sugar	5.13
Fat	0.40
Fibre	1.11
Ash	0.54

Use of Tapioca

163. Tapioca is used as food in the tropics either fresh or in processed form as it is a major source for carbohydrate in these areas. In addition, processed tapioca products are used for animal feed and food industries (such as bread, glucose, dextrin, mono-sodium glutamate). Its starch is used for surgical dressing materials, flocculents in mining, drilling fluids in oil boring and binders for ceramics. While chips and pellets are used primarily for animal feed, the starch is used in various forms described above.



Tropical crop

164. Tapioca is grown extensively throughout the tropical and sub-tropical world. The F.A.O. Annual Statistics (1970) estimate the total world production at 91 million tons. The principal producing countries are Brazil, Indonesia, Congo, Thailand, Nigeria and Malaysia. Table I gives total world production during 1969.

Table I

World Production of Tapioca in 1969  
(Excluding China)<sup>§</sup>

	<u>In 1,000 M/tons</u>
North and Central America	612
South America	34,237
Asia	19,951
Africa	36,035
Oceania (Pacific countries)	123
Total	<hr/> 90,958 <hr/>

165. Before World War II, the major tapioca exporter was Indonesia. Thailand has now replaced Indonesia as the biggest supplier to world markets largely because the people in Thailand do not generally consume tapioca as food, and also because the Thai Government has in recent years, encouraged tapioca cultivation. Table II gives the tapioca production and yield in major exporting countries.

<sup>§</sup>F.A.O. Production Year Book.

Table IITapioca Production and Yield in Major Exporting countries<sup>s</sup>

(Yield weighted averages are computed)

Country	1968			1965 to 1967 yield weighted average
	Area 1,000 hec.	Production 1,000 M/tons	100 k.g./ hectare	
Brazil	1,900	26,800	141	
Indonesia	1,600	11,800	75	
West Malaysia	20	310	155	
Thailand	150	2,200	144	
Angola	120	1,530	128	
Madagascar	280	800	29	
Togo	150	1,120	73	
World total (including other producing countries)	9,584	82,570	86	

166. It will be noticed that acreage in Malaysia is the lowest among major exporting countries although tapioca growing is well suited to the Malaysian environment. It was first planted in Malaysia in the nineteenth century and its roots were used mainly for the manufacture of flour.

167. By the late nineteenth century, Malaysian tapioca flour had been recognised as a world leader. One of the local brands became accepted as the highest quality tapioca sold in the United Kingdom. Table No. III gives the acreage under tapioca in Malaysia.

<sup>s</sup>F.A.O. Production Year Book.

Table IIIAcreage under tapioca in Malaysia

Year	(Acres in 1,000)
1902	79
1906	105
1913	15
1928	23
1932	34
1965	40

Source : Malaysian Agricultural Journal and Arthur D. Little Inc. estimates

168. The State of Perak is by far the most important producer of tapioca accounting for more than 58% of the total West Malaysian production. Table IV below gives the acreage under tapioca in each of the West Malaysian States.

Table IVTapioca acreage in each State

States	1965	1966	1967	1968
Perak	23,805	21,938	25,726	24,782
Selangor	3,495	3,042	3,685	2,407
Penang & Province Wellesly	2,195	2,568	1,542	1,040
Johore	1,947	2,182	2,130	2,895
Kelantan	2,716	2,052	3,143	3,691
Pahang	1,502	1,314	2,363	2,912
Kedah	2,275	1,194	3,825	1,293
Other states	2,421	1,930	2,320	3,000
<b>TOTAL</b>	<b>40,356</b>	<b>36,220</b>	<b>44,784</b>	<b>42,220</b>

Tapioca Processing in Malaysia

169. According to the 1968 Census of Manufacturing Industries published by the Department of Statistics, there are 65 Sago & tapioca factories in West Malaysia; 65% of these factories are in Perak and Johore. These factories produce an estimated 20,500 tons of tapioca flour valued (ex-estate) at \$ 5 mil., 12,400 tons of tapioca pearls valued at \$ 2.9 mil. and 77,400 tons of tapioca chips valued at \$10 mil. These factories purchased in 1968, 209,000 tons of tapioca tubers at an average cost of \$43.65 per ton i.e. \$2.59 per picul.<sup>\$</sup>

170. Tradewise, the tapioca industry in West Malaysia is a net exporter grossing an average annual export value of about \$ 4.5 million in the period 1966-1969. It is of interest to note that the Malaysian export of tapioca product is confined to starch and it is exported in the form of pearl, flakes and flour. West Malaysian producers have failed to enter substantial overseas markets for chips. During the above period, the West Malaysian import of tapioca waste from Thailand was valued at about \$1.6 mil. per annum. In the first quarter of 1970, the value from the export of tapioca products rose tremendously from \$0.40 mil. achieved in corresponding period of 1969 to a high level of \$1.18 mil. Table V gives Principal exporting and importing countries of Tapioca starch with the quantities exported and imported by them respectively.

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<sup>\$</sup>  
One Picul = 133 1/3 lbs.

Table VPrincipal Exporting and Importing Countries of Tapioca Starch

Exporting country	Importing country		Tons)	
	USA	UK	Local	Total
Thailand	116,906		494	175,882
Brazil	18,437			21,238
Taiwan	1,706			1,706
Mainland China			1,550	2,846
Togo			1,321	1,321
Malaysia	172	7,420	254	7,846
Singapore		1,683		1,683
U.S.A.				2,170 <sup>S</sup>

<sup>S</sup>Mostly re-exported.

Source : "The Market for Starch in Selected Industrial countries" UNCTAD/GATT, April, 1969.

171. Considering the fact that in spite of the smallness of the processing factories involved in the industry, the local products have successfully entered the international markets, the future developments in the tapioca industry are promising. Local producers, however, have not yet fully exploited the opportunities existing in this trade. This can be seen in comparing the local export performance with that of Thailand. The value of the West Malaysian export amounts to only about 5% of that of Thailand. In Thailand, the annual trade of tapioca products in 1968 amounted to about \$103 million, whilst West Malaysian export was valued only at about \$5 million. The magnitude of Thailand's export indicated in Table VI is a good indicator of the overseas demand which has not been exploited fully by local exporters.

Table VIComparison of West Malaysian and Thailand  
Export Preference on Tapioca Products in 1968

Item	Thailand (Quantity) Tons.	West Malays: (Quantity) Tons.
Tapioca chips	323,332	-
Tapioca flour	143,464	18,232 (aggre- gate for flake Starch and pearl)
Tapioca Waste	33,043	-
Tapioca Meal	74,678	-
Tapioca Pellets	283,712	-
<b>TOTAL</b>	<b>858,229</b>	<b>18,232</b>

172. Although Brazil is the largest producer of tapioca, its export volume is very small compared to Thailand. During 1967, Thailand exported 808,000 tons of tapioca products, Brazil 21,300 tons and West Malaysia 16,500 M/tons. Table VII gives the percentage exported of total production for each major exporting country.

Table VIIPercentage Exported of Total Production for each Major Exporting  
Country

Country	Production 1,000 M/tons	Export 1,000 M/tons	Export produc- tion percen- tage
Brazil	27,268	21.3	0.08
Thailand	1,800	808.0	44.89
West Malaysia	310	16.5	5.32
Madagascar	900	17.2	1.91
Togo	1,118	3.3	0.30
Angola	1,525	49.8	3.27

Source : The Present Situation of Tapioca Production, Processing and Marketing in Malaysia. Joint study of FAO/Ministry of Agriculture and Cooperatives.

MARKET FOR TAPIOCA CHIPS/PELLETSMarket in Malaysia

173. Generally speaking, the animal feed industry provides the main avenue for the absorption of tapioca chips. No accurate information is available on the quantity demanded by the animal feed industry. However, it is estimated that in the manufacture of prepared feeds for poultry and pigs by the local feed-mills, the use of tapioca chips constitutes about 9% of the total output by weight. The feedmill production<sup>s</sup> in 1968 was estimated at 310,000 tons and consequently the offtake of tapioca chips approximated 28,000 tons. To estimate the overall demand by the animal feed industry, there is a need to consider the quantity sold directly by the chip factories to the poultry and livestock producers. Information of such sales to producers for making self prepared feedmash is, however, not available. The outlook of the animal feed industry in West Malaysia, as indicated by its past performance, is favourable and consequently increased demand for this sector could be reasonably expected. Substantial increase in the production of poultry and livestock industry has been envisaged by the Department of Veterinary Services and the projected production is given in Table VIII.

Table VIIIProjected Production of Poultry and Livestock in West Malaysia  
(in million lbs.) in 1970 and 1980

	<u>1965</u>	<u>1970</u>	<u>1980</u>
Poultry Meat	90	156.4	448
Pork	99	125	175
Beef	27.5	28.7	56

<sup>s</sup>MIDE Development Finance, Volume 1 No.2

According to the Malaysian feed companies, tapioca chips/pellets can be substituted in limited quantities for maize in animal feeds. 30% substitution of tapioca chips would not adversely affect feed quality for pigs and layers. A greater proportion might result in soft pork and thin shelled eggs, unless careful offsetting changes in formulation were worked out. For chicken and cattle feeds, however, a somewhat higher proportion of tapioca could probably be used without ill effect.

174. Table IX shows the total substitution required to equal the fat and protein content of one picul of maize. In this substitution, a mixture of soya-meal, rice bran and tapioca chips (with chips constituting 60% by weight) gives approximately the equivalent protein and fat values of maize. On this basis, Tapioca chips are worth 83.1/3% of the price of corn, assuming the cost of soya-meal to be \$ 24 per picul, and rice bran to be \$ 12 per picul.

Table IX

Use of Tapioca in Maize Substitute

<u>Quantity</u>	<u>Contents (lbs)</u>		<u>Cost \$</u>
	<u>Fat</u>	<u>Protein</u>	
Picul (133.3 lbs). Maize	5.20	12.70	12.00
	<u>Tapioca Substitute</u>		
133.3 lb.Soya-meal	0.13	5.86	2.40 At the rate of \$24 picul
40.0 lbs.Rice Bran	4.67	5.07	3.60 At the rate of \$12 picul
80.0 lbs.Tapioca Chips	0.40	2.00	6.00 At the rate of \$10 picul
	<u>5.20</u>	<u>12.93</u>	<u>12.00</u>



175. Given the partial substitutability of tapioca chips and maize within the limits described, the market value of chips will be determined primarily by the price of maize, and secondarily by the prices of rice bran and soya meal. Prices of maize have been climbing steadily since 1959, when the average price (landed in Malaysia) was \$179 per long ton, and in 1964 it had risen to \$203 per ton. In our substitutability analysis, we assumed a rice bran price of \$12 per picul to the feed miller, in arriving at an equal value relationship, when the tapioca chip price is 83% that of maize. The price of soya-meal is assumed to be \$24 per picul to the miller with the decrease in price of rice bran below \$12 (while maize and soya-meal prices remain constant), the value of tapioca to the miller increases and the change in soya-meal price will affect the value of tapioca chips to a lesser degree. Other things being equal, the feed mills will be indifferent to using tapioca chips or maize when the price of chips stands at 83% of the price of maize. Tapioca chips prices would have to be below 83% of the maize prices to ensure their purchase by feed mills. Feed millers in Malaysia have indicated a strong interest in tapioca chips of good quality and regular delivery up to \$8 per picul, delivered to the mills. At this price of the tapioca chips the amount of the chips involved in the substitution exercise upto 1980 the requirement for maize to meet the demand by the local animal industry would amount to 363,750 tons or 2.6 times of that of 1967. This estimate is based on the assumption that feeds to fresh conversion ratio is 4:1 in weight and that maize constitutes 30% of all feedstuffs consumed by livestock and poultry which is given in Table VIII. With the substitution there will be a large demand for the tapioca chips in the domestic market and saving in the foreign exchange required for importing maize.

### Need for Quality

176. To assure this domestic market for tapioca chips, the quality, price and supply must meet the demands of the millers. Inconsistent quality and erratic delivery have been major reasons for inadequate use of chips by the feed mills. A steady supply of tapioca chips would save the mills from keeping high inventories, which they have to keep in case of maize as it is imported, and hence it will reduce the working capital needs. Excessive moisture and foreign matter content are serious faults frequently found in these chips. Processors often adulterate their products with sand to increase the weight. Moisture should not exceed 13%, should contain (by weight) not less than 70% of starch, and the foreign matter should not exceed 1.5 - 2.0%. High standard practices demand that the sack used is in good and sound condition and is free from taint.

### Overseas Markets

177. The largest importers of tapioca products in general are the U.S.A., the EEC countries (including U.K.) and Japan. In Europe, West Germany, Netherlands, and Belgium are the principal importers - West Germany among them being the largest importer. EEC countries import tapioca products mostly for animal feed manufacture. There is a growing demand for tapioca products in these countries for following reasons :

- i) There is a continuous increase in the consumption of compound feedstuff per head of animal in the above three countries. (Table X below gives the increase in feedstuff consumption rate in these countries).
- ii) There is a corresponding increase in the production of feedstuff in the respective countries, and
- iii) The duty on imports of grain such as maize is much higher than the duty on tapioca products.

178. In West Germany the market for tapioca chips has been greatly stimulated by a sharply rising demand for animal feed raw materials and legislation imposing a tariff on maize imports. Duty assessed against maize is much higher than on tapioca chips with the result that there is a competitive advantage to the later in the West German market despite high freight costs. In addition, tapioca chips have a competitive market advantage over tapioca meal in West Germany. Until 1972, both products were assessed at about \$36 per ton. Later duties on chips were lowered because German feed mills, operating below capacity, desired chips for greater use of plant facilities. Since the tariff reduction, there has been a dramatic shift in West German imports of tapioca products from meal to chips. The future for tapioca chip exports to West Germany appears bright also because of the steady increase in its consumption.

Table X

Increase of consumption of Compound Feeding  
Stuff per head of animal, 1960/65

	Germany	The Netherlands	Belgium
All cattle	30%	4.4%	17.0%
Milk cows	33.5%	8.7%	18.9%
Pigs	28.0%	-5.3%	11.1%
Pigs for Slaughter	23.7%	2.9%	19.7%
Poultry	13.3%	-4.5%	47.6%

Source : International Trade Centre UNCTAD/GATT  
Publication "The Markets for Tapioca as a Raw  
Material for Compound Animal Feedingstuff".

179. According to the estimates prepared by the UNCTAD/GATT Study, it was expected that by 1970 the production of feeding stuff in the three countries may have reached to the following level :

Germany : 12 million tons (7.5 in 1966)

The Netherlands : 7 million tons (5.9 in 1965-66)

Belgium : 3.7 million tons (2.8 in 1966)

180. It can be safely assessed that the demand for raw material for feedstuff will continue to rise in several other countries including Japan during the current decade.

181. With regard to future market for animal feeds in the three main consuming countries, favourable projections have been made by the Food and Agriculture Organisation of the United Nations on their meat industry and are given in Table XI.

Table XI

Projected Production of Meats (all types)  
of Major European Countries

<u>Countries</u>	1961/63	'000 tons.	
		<u>Base Year</u>	
		1975 (low)	1975 (high)
Belgium-Luxembourg	513.9	680	707
West Germany	2,839.8	3,642	3,740
Netherlands	702.1	976	1,023
United Kingdom	2,204.0	2,795	2,935

Source : F. A. O.

### Market in Japan

182. The size of chips imports for any period by these countries would depend largely on the relative price level of chips, barley and maize. It is of interest to note that a significant increase has also been projected by F.A.O. for Japanese meat production at 1.18 million tons in 1975 as compared to 0.54 million tons in 1963 and this could provide a good market for local exports.

183. Japan has been importing tapioca starch for several years but most of the starch is used for food or industrial purposes. It is also used in the manufacture of AJI-NO-MOTO, the food seasoning ingredient sold in Japan and in several other countries.

184. There have been many experiments with regard to use of tapioca as a substitute for coarse grain in feedstuff production although the feed industry has not yet started to use them in any significant manner. It is learnt that low quality and adulteration are some of the main reasons which influence the import of tapioca in the Japanese market. Most of the tapioca products at present imported into Japan are from Thailand.

### Higher Freight

185. Investigations reveal that local exporters in Malaysia have found the export markets for chips not very lucrative with the existing high cost of tapioca roots and higher freight charges. African countries have an advantage over Asian exporters because of the lower freight charges.

186. As regards shipping, it is of interest to note that the existing rates on tapioca chips imposed on local exporters are higher than those in Thailand. For a ton of chips in bags from West Malaysian ports to United Kingdom/Continent, the rate is US\$27.00 compared to US\$21.60 from Thailand.

Such differential in freight charges adversely affects the competitive position of local tapioca chips in the overseas market. However, such differential in freight can be overcome by pelletising the chips. For pelletised chips, the freight charges from West Malaysian ports to United Kingdom/Continent are US\$16.20 per ton while the rate for pellets from Thailand is US\$16.50 per ton.

#### Greater Demand for Pellets

187. Pellets are obtained from dried chips and broken roots by grinding and hardening into a cylindrical shape. These pellets are less than 1 cm. in diameter and about 2 cm. in length. Pelletising requires a large amount of investment in plant and equipment. Pelletisation of chips is getting popular in Thailand. The change in the form of chips for export is due not only to the lower freight rates imposed on such pelletised products, as compared to ordinary chips, but also due to the fact that there is a greater demand for them at the terminal markets. Through pelletisation, problems pertaining to moisture content and extraneous matter prevalent in the ordinary chips are eradicated. Also the pelletised chips command a high price than ordinary chips. For example in May 1970, the price for pellets in Bangkok was 47.50 bahts per picul as compared to 35.68 bahts for ordinary chips. The increase in demand for pellets is also evident from the fact that Thailand has been increasing its quantities of exported pellets and simultaneously expanding its capacity to produce pellets.

#### West-German Plants in Thailand

188. There are several plants in Thailand producing pellets. However, importers of pellets have often complained of a large percentage of foreign matter in them and these pellets do not seem to keep their form until further processing. There are two plants operated in Thailand by West German Chipping Companies. These plants produce high quality pellets

which are in great demand in the European market. It is, therefore, advisable that if Malaysian cooperatives undertake the manufacture of pellets, a high standard in production should be maintained by them in order to be competitive in the international market.

189. Pelletised form of tapioca chips are preferred in the European market for the following reasons :

- i) Pelletised cargo is more popular as freight charges are lower.
- ii) Handling charges for loading and unloading are also cheaper and easier, particularly if users are equipped with elevators and silos.
- iii) Pellets require less space. Manufacturers can save 20-25 per cent storage capacity by using pellets; and
- iv) quality is more uniform.<sup>§</sup>

190. Although some manufacturers do not yet buy pellets in preference to chips, the trend seems to be changing in favour of pellets.

#### Quality Control Essential

191. In the Netherlands and Belgium there is a very rigid control on quality imported from Thailand while Germany has prescribed her own standards. It should be expected that almost all importing countries will have strict quality control on imported tapioca products. Often shipments are rejected if the quality is lower than the specified standard. For example in the Netherlands, the CFO (Central Farmers Organisation) will recommend to its member cooperatives not to use the tapioca products if they are found below standard.

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<sup>§</sup>International Trade Centre/UNCTAD-GATT Study.

192. The standards of quality are generally based on starch content (minimum), moisture content (maximum), raw-fibre content (maximum), ash or sand content (maximum). Many importing countries have their own testing laboratories to advise on the percentages allowed in respect of each item such as starch, chips, meal or pellets.

193. As Malaysia has not yet entered the market in the major importing countries, it has an excellent opportunity to make a good start by maintaining right from the beginning a high quality production geared to export market.





196. According to the joint FAO/Food Technology Research and Development Centre of Malaysia study, expansion potentials for tapioca cultivation also exist in the following states :

JOHORE	10,000 to 15,000 acres
KEDAH	26,500 acres (Part of this likely to be allotted to FLDA schemes).
SELANGOR	170,000 acres of virgin jungle, needs to be reclaimed.
NEGRI SEMBIDAN	144,000 acres of unalienated State land.
MALACCA	3,000 acres (will need lime application).
KELANTAN	30,000 to 35,000 acres (known as deficiency area)

197. Considering location and accessibility, the Perak tracts appear to be most suitable for plantation development. Perak is conveniently located between Kuala Lumpur and Penang and is close to a railway, major highway and the Penang Port. A detailed examination of other available areas is also recommended in order to select the most suitable and economically viable area for cultivation.

#### Cultivation on a Planting Basis

198. Growing tapioca on plantation basis is recommended for the following reasons :

- i) Plantations allow mechanization of ploughing and cultivation, the proper use of fertilizers and the establishment of a soil conservation and management plan.
- ii) Harvesting and collection can be organised for root processing within 24 hours after harvest, a necessity for a high quality end product.

- iii) Plantation type of cultivation in Malaysia will allow the use and development of otherwise unproductive lands.
- iv) A plantation type of cultivation will be most suitable for ensuring a constant supply of roots of uniform size to feed the plant round the year.

#### Size of Plantation

199. Plantation size will depend upon the available acreage and the raw material needs of an economically feasible processing plant. We have chosen to demonstrate the economics of a 8,000-acre plantation in Perak, a size which should meet both criteria of acreage availability and raw material requirements over two consecutive years at the rate of 4,000 acres per year. Additional 100 acres for housing and factory buildings will be acquired.

200. Preliminary steps involve choosing a site and clearing the land. It is estimated that a year will be required to clear 4,000 acres. This 4,000 acre plot will need to be divided into 12 blocks of approx. 335 acres each. Each block should be cleared every month and planted so that it can be harvested in the second year. With this type of programme the chip making plant will be getting its raw material regularly every month. In third year the plant will be working to its full capacity when all the 8,000 acres will be harvested, whereas in the second year only 4,000 acres will be harvested.

#### Yield

201. In this profitability study, the yield has been estimated at 15 tons per acre. Trials conducted at the Federal Experimental Station, Serdang, have favourably indicated that yield as high as 16 tons per acre could be obtained with the adoption of good farm practices. Hence, with the estimated yield of 15 tons per acre, production of roots in the first and second year of harvest will be 60,000 tons and 120,000 tons respectively.

ESTIMATED CAPITAL REQUIREMENTSLand Acquisition and Clearing

202. Since the Holyrood soils have limited uses, we have estimated alienation costs at \$40 per acre. The clearing of the land should be handled by a specialised organisation on contract. The cost is estimated at \$150 per acre. Table XII shows the schedule of capital requirements for land acquisition, clearing, drains, roads, conservation and fencing.

Table XII

Item	<u>Land Acquisition &amp; Clearing Costs</u>		Total	Per acre
	<u>1</u>	<u>2</u>		
Land Acquisition <sup>s</sup> & survey 8,100 acres	324,000	-	324,000	40
Land clearing (felling, burn- ing, stumping, drainage)	656,000	640,000	1,296,000	160
Roads, bridges and culverts	369,000	360,000	729,000	90
Conservation and fencing	49,000	48,000	97,200	12
TOT.	1,398,200	1,048,000	2,446,200	302

Factory and Plantation Buildings

203. Factory and plantation buildings include fertilizer storage and office costing \$30,000 for factory building and \$1,10,000 for workshop.

<sup>s</sup>8,000 acres plantation land, 100 acres residential site, future nursery, etc.

Staff and labour accommodation

204. The detailed estimated cost for executive, subordinate field staff, estate labourers as well as factory staff are as follows :

Table XIII

ITEM	<u>Staff and Labour Accommodation</u>		(In M\$)
	Year		
	1	2	
<u>Executive</u>			
Manager's bungalow	50,000	-	
Assistant's bungalow	-	30,000	
Engineer's bungalow	50,000	-	
<u>Subordinate Staff</u>			
Chief clerk	12,000	-	
Assistant clerk (2)	8,000	8,000	
Factory clerk	8,000	-	
Field Conductors (2)	10,000	10,000	
Hospital Assistant	10,000	-	
<u>Labour</u>			
Supervisor/Foreman (4)	8,000	8,000	
Lines (\$2,200 each unit)	220,000	220,000	
Creches	-	8,000	
Community Hall	-	8,000	
Dispensary and Equipment	-	10,000	
TOTAL	376,000	302,000	= 678,000

Agricultural Machinery & Equipment

205. A 8,000-acre plantation will involve the use of a variety of equipment including Tractors, trailers, land rovers, motorcycles, lorries, tractor attachments and miscellaneous tools. (Table XIV gives the complete detail).

Table XIVAgricultural Machinery & Equipment

Item	Year		Cost M\$
	1 Nos.	2 Nos.	
Land Rover at the rate of \$13,000	1	1	26,000
Tractors at the rate of \$12,000	10	4	168,000
Trailers at the rate of \$4,000	8	3	44,000
5 Tons Tipping Lorries at the rate of \$18,000	2	-	36,000
Road Graders at the rate of \$27,000	2	-	54,000
Van/Ambulance at the rate of \$12,000	-	1	12,000
Motor-cycles at the rate of \$1,200	2	2	4,800
Plows at the rate of \$1,200	5	3	9,600
Disc.Harrows at the rate of \$1,300	5	3	10,400
Kedah Rollers at the rate of \$1,000	3	3	6,000
Spray attachments at the rate of \$1,500	2	2	6,000
Nursery Irrigation Equipment	1	-	8,000
Tools and Miscellaneous Equipment	-	-	17,200
TOTAL	301,100	100,900	402,000

Factory Plant

206. The cost of chip pelletising plant inclusive of installation is \$900,000. Payments are expected to be made as follows :

40% on placing the order		
		in year 1
40% on arrival of machinery		
		in year 2
20% on commissioning		
		in year 2

207. Factory equipment includes washing, drying, pelletising, and automatic bagging machinery. The factory is geared to operate 300 days in a year with a daily through put of 400 tons of tubers.

208. The final product specifications for export will be as follows :

Sand maximum	1.0%
Fibre maximum	3.5%
Starch minimum	70.0%
Moisture maximum	10.0%

Water and Electricity

209. The capital expenditure for water and electricity for 8,000 acre plantation and factory is taken at \$60,000.

210. Table XV gives the total capital expenditure of the scheme while Table XVI gives the estimated capital cost.

Table XV

Item	<u>Capital Expenditure</u>		Total
	1	2	
Land Acquisition and clearing	1,398,200	1,048,000	2,446,200
Factory & Plantation buildings	80,000	60,000	140,000
Housing (staff and labour-accommodation)	376,000	302,000	678,000

Table XV (Contd.)

Agricultural machinery and Equipment	301,100	100,900	402,000
Factory Plant	720,000	180,000	900,000
Water and Electricity	30,000	30,000	60,000
<b>TOTAL</b>	<b>2,905,300</b>	<b>1,720,900</b>	<b>4,626,200</b>

Table XVI211. Estimated Capital Cost of Scheme

<u>Item</u>	<u>Total \$'000</u>	<u>Cost per acre</u> \$
Land Acquisition & Clearing	2,446.2	302.00
Factory and Plantation Buildings	140.0	17.50
Housing	678.0	84.70
Agricultural Machinery and Equipment	402.0	50.25
Chip/Pelletiser Factory Plant	900.0	112.50
Water and Electricity	60.0	7.50
<b>TOTAL</b>	<b>4,626.2</b>	<b>574.45</b>



212. Revenue Expenditure for first four years and thereafter for planting 8,000 acres with tapioca and processing the tubers into pelletised chips is given in table XVII

Table XVII

<u>Revenue Expenditure</u>		Planting 8,000 acres with tapioca				
Year	<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>&amp; thereafter</u>	
Acres planted	4,000	8,000	8,000	8,000		
Production (Tubers '000 tonnes)	-	60	120	120		
Pelletised chips (40% of the tubers)	-	24	48	48		
		<u>Expenditure \$'000</u>				
General charges	150	200	200	200		
Land Rent at the rate of 10/acre (To begin during first year of harvest)	-	40	80	80		
Planting and cultivation at the rate of \$265 acre	1,060	2,120	2,120	2,120		
Harvesting at the rate of \$60/ acre	-	240	480	480		
Internal Transport \$ 3/ton tubers	-	180	360	360		
Cost wet tubers ex-estate	1,210	2,780	3,240	3,240		
Manufacturing at the rate of \$4/ ton	-	240	480	480		
Packing at the rate of \$5/ ton pallets	-	120	240	240		

Cost of Pellets ex factory	1,210	2,140	3,960	3,960
Transport to port at the rate of \$20/ ton pellets	-	480	960	960
Port charges at the rate of \$5/ ton pellet	-	120	240	240
Insurance at the rate of \$1.25/ ton pellets	-	30	60	60
Shipping at the rate of \$48.60/ ton pellets i.e. freight for Europe	-	1,166	2,332	2,332
<hr/>				
CIF Price U.K. Port	-	4,936	7,552	7,552

- i) The estate general charges cover the Manager's salary, office expenses, general transport, medical and social amenities for the estate staff. The sum estimated is \$150,000 during the initial year rising to \$200,000 in the subsequent year.
- ii) Land rent is \$10 per acre and to be paid from the first year of harvest.
- iii) Planting and cultivation costs are estimated at \$265 per acre, detailed as follows :

	<u>Cost per acre</u>
	\$
Cultivation	35.00
Planting	35.00
Fertilizers <sup>\$</sup>	138.00
Weeding (including pest and disease control)	55.00
Supplying	2.00
	<hr/>
	265.00

<sup>\$</sup> A generous manuring programme is proposed using compound fertilizers applied as follows :

- CIRP - 80 lbs. per acre (pre-planting)  
CCM 44-180 lbs. per acre (at planting)  
CCM 44-180 lbs. per acre (four months after planting).

- iv) Harvesting costs are estimated at a flat \$60 per acre.
  - v) Internal transport is based on an average round trip of 15 miles at 20 cents per ton mile.
  - vi) Factory operational costs include factory overheads at \$480,000 per annum, processing an annual crop of 120,000 tons of tubers.
  - vii) The freight charges from West Malaysian port to United Kingdom/Continent are US\$16.20 (1 US\$ = 2.50 M\$)
213. Revenue Expenditure per ton of Tubers and per ton of Pellets for 2nd, 3rd, 4th years and thereafter is given in Table XVIII

Table XVIII

Revenue Expenditure for per ton of Tuber as per ton of  
Pellets

Revenue costs have been estimated as follows :

	Year		
	2nd	3rd	4th and thereafter
	\$ per ton tuber		
General charges	3.33	1.66	1.66
Land Rent	0.66	0.66	0.66
Planting & cultivation	35.33	17.66	17.66
Harvesting	4.00	4.00	4.00
Internal Transport	3.00	3.00	3.00
Tuber ex-estate	46.32	26.98	26.98
Manufacturing	4.00	4.00	4.00
	50.32	30.98	30.98
	\$ per ton pellets		
Ex factory	125.80	77.50	77.50
Packing	5.00	5.00	5.00
	130.80	82.50	82.50
Transport to Port	20.00	20.00	20.00
Port charges	5.00	5.00	5.00
Insurance	1.25	1.25	1.25
Shipping charges	48.60	48.60	48.60
CIF PRICE UK PORT	205.65	157.35	157.35

214. Table XIX gives the depreciation charged at the end of each year upto 10th year and the salvage value at the end of 10th year.

Table XIX

ITEM	Original value	Depreciation Rate (Annual)	Depreciation Schedule				Salvage value at the end of 10th year
			Depreciation at the end of the year	1	2	3 to 10 each year	
1. Factory & Plantation building	1,00,000	5	7,000	7,000	7,000	70,000	
2. Housing	678,000	5	18,800	33,900	33,000	339,000	
3. Agricultural Machinery and Equipment	402,000	9.5	28,604	38,190	38,190	20,100	
4. Factory Plant	900,000	5	36,000	45,000	45,000	450,000	
5. Water and Electricity	60,000	9	5,400	5,400	5,400	6,000	
<b>TOTAL</b>	<b>2,180,000</b>		<b>95,804</b>	<b>129,490</b>	<b>129,490</b>	<b>885,100</b>	

Table XX

## CASH FLOW ANALYSIS

215. (Selling price of Pellets calculated at \$200 per ton C.I.F. U.K. PORT), based on Production estimates = 1st year 24,000 Tons; 2nd year & thereafter = 48,000 tons.

ITEM	1	2	3	4	5	6	7	8	9	10
1. Capital Requirement, yearly	2905,300	1720,900								
2. Cumulative Capital Input	2905,300	4626,200	4626,200	4626,200	4626,200	4626,200	4626,200	4626,200	4626,200	4626,200
3. Income at the rate of \$200 per ton	-	4800,000	9600,000	9600,000	9600,000	9600,000	9600,000	9600,000	9600,000	9600,000
4. All Costs (Table 10)	1210,000	4536,000	7552,000	7552,000	7552,000	7552,000	7552,000	7552,000	7552,000	7552,000
5. Depreciation	95,804	129,490	129,490	129,400	129,400	129,400	129,400	129,400	129,400	129,400
6. Amortization	-	-	800,000	800,000	800,000	800,000	800,000	800,000	800,000	800,000
7. Total (of 4, 5 & 6)	1305,804	5665,490	7681,490	7681,490	7681,490	7681,490	7681,490	7681,490	7681,490	7681,490
8. Gross Profit (3-7)	(1305,804)	(129,490)	1918,510	1118,510	1118,510	1118,510	1118,510	1118,510	1118,510	1118,510
9. Depreciation-Cumulative Total	95,804	225,294	354,784	484,274	613,764	743,254	872,744	1002,234	1131,724	1261,214
10. Replacement of Agricultural Machinery and Equipment	-	-	64,320	128,640	192,960	257,280	321,600	385,920	450,240	514,560
11. Net Depreciation Reserves (9-10)	95,804	225,294	290,464	355,634	420,804	485,974	551,144	616,314	681,484	746,654
12. Cumulative Gross Profit	(1305,804)	(1435,294)	483,216	1601,726	2720,236	3838,746	4957,256	6075,766	7194,276	9112,786
13. Cumulative Amortization	-	-	-	800,000	1600,000	2400,000	3200,000	4080,000	4800,000	4800,000
14. Cumulative Cash Flow (11+12+13)	(1210,000)	(1210,000)	773,680	2757,360	4741,040	6724,720	8708,400	10692,080	12675,760	14659,440
15. Net Capital Remaining (2-14)	4115,300	5836,200	3852,520	1868,840	(124,840)	(2098,520)	(4082,200)	(6065,880)	(8049,560)	(10033,240)
16. Interest at the rate of 7% cumulative	-	288,071	428,699	728,383	910,187	965,160	965,160	965,160	965,160	965,160
17. Firms'-Debt Remaining -	-	6124,271	4261,054	2597,223	785,347	-	-	-	-	-
18. Credit to the firm	-	-	-	-	-	(1133,360)	(3117,040)	(5100,720)	(7084,400)	(9068,080)

CONCLUSIONS AND RECOMMENDATIONS

- 216.1 Tapioca growing and processing can be established as an economically feasible industry in Malaysia. A pelletised chip making plant in Malaysia would have prospects of becoming a profitable venture in a reasonably short period of time.
- 216.2 Annual foreign exchange savings from the replacement of maize imports by tapioca pellets may amount to \$5.4 million.
- 216.3 There is a large and growing export market for tapioca pellets; potential foreign exchange earnings from this market range from \$20 million to \$50 million.
- 216.4 The establishment of tapioca technology (e.g. knowledge of high yielding varieties, fertilizer applications and soil management) will eventually increase yields and reduce costs.
- 216.5 Pelletised chips are preferred to ordinary chips in the foreign markets for the following reasons :
- 216.5.1 The quality of the pellets is uniform and pellets absorb less moisture.
- 216.5.2 Handling charges and loading charges are lower in case of pellets.
- 216.5.3 Pelletised cargo involves lower freight charges.
- 216.5.4 Storing of pellets is easier and saves 20% - 25% in storage space.
- 216.6 Tapioca can be grown on soils too poor for successful rubber and oil palm plantations.
- 216.7 The Malaysian Cooperatives should proceed to establish a tapioca plantation on holyrood soils.

- 216.8 The possibility of establishing a joint venture with a foreign investor for the pelletised chip manufacturing plant should be explored. Assistance of the International Cooperative Alliance should be sought, if necessary, for establishing such collaboration.
- 216.9 The Malaysian Cooperative Industrial Development Society (MCIDS) should be given the sole responsibility for operating the plant and the plantation.
- 216.10 A trial production of tapioca should be undertaken on the acquired land before starting large-scale cultivation.
- 216.11 A quality control laboratory should be established to ensure quality control of production at regular intervals.
- 216.12 Possibilities of entering into a long-term contract with an importing country for the supply of pellets should be explored with the assistance of the International Cooperative Alliance.
- 216.13 The report should be treated as a pre-investment study. A more detailed technical feasibility study should be undertaken after a decision had been taken to establish the project.
- 216.14 Full use should be made of all the available data and reports of studies so far made by government and their consultants concerning production and processing of tapioca.
- 216.15 The Government of Malaysia should explore the opportunities for trial growing of tapioca on the available holyrood area recently cleared by the Federal Land Development Authority in Johore.
- 216.16 In anticipation of future expansion of tapioca production in Malaysia, trials should be carried out, with the help of MARDI, on the Bris soils and on the tin tailings, to determine the cultural practices that will be required and the nature of the yields that can be obtained.

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