

| Description of equipment items | Amount required for each item | Unit price US.\$ | Total cost US.\$ | 1979/80 US.\$ | 1979/81 US.\$ | 1979/82 US.\$ |
|--|-------------------------------|------------------|------------------|---------------|---------------|---------------|
| - Reamer $\frac{3}{8}$ " - $1\frac{1}{2}$ " | 1 | 375 | 375 | 375 | - | - |
| - Pipe wrench \emptyset 3" | 1 | 60 | 60 | 60 | - | - |
| - Tap & Die | 1 | 300 | 300 | 300 | - | - |
| - Torque wrench | 1 | 125 | 125 | 125 | - | - |
| - Blind revet | 1 | 1,250 | 1,250 | 1,250 | - | - |
| - Puller set | 1 | 2,000 | 2,000 | 2,000 | - | - |
| - Pulley, 5 tons | 1 | 400 | 400 | 400 | - | - |
| - Sand grinder \emptyset 8" (engine drive) | 2 | 250 | 500 | 500 | - | - |
| - Hand and Operated gear oil pump | 1 | 250 | 250 | 250 | - | - |
| - Hand and operated greese pump | 1 | 100 | 100 | 100 | - | - |
| - Flaring tools $\frac{3}{8}$ " - $\frac{7}{8}$ " | 1 | 300 | 300 | 300 | - | - |
| - Electric plane, 5" | 1 | 300 | 300 | 300 | - | - |
| - V.O.M. meter | 1 | 150 | 150 | 150 | - | - |
| - Chain pipe wrench \emptyset 5" | 1 | 150 | 150 | 150 | - | - |
| - Strap wrench \emptyset $4\frac{7}{8}$ " | 1 | 125 | 125 | 125 | - | - |
| - Pipe cutter and expander | 1 | 175 | 175 | 175 | - | - |
| - Measuring instrument | 1 | 500 | 500 | 500 | - | - |
| - Hydraulic jack, 10 tons | 1 | 250 | 250 | 250 | - | - |
| - Chain block, 5 tons | 2 | 500 | 1,000 | 1,000 | - | - |
| - Winch rope 1 ton | 1 | 600 | 600 | 600 | - | - |
| - Lathe Swing, 12" | 1 | 300 | 300 | 300 | - | - |
| <u>5. Farm machinery and material</u> | | | | | | |
| - Tractor 70 H.P. (including attachment) | 5 | 20,500 | 102,500 | 61,500 | 41,000 | - |
| - Disk Harrow | 3 | 1,200 | 3,600 | 1,200 | 2,400 | - |
| - Ridger | 3 | 1,200 | 3,600 | 1,200 | 2,400 | - |
| - Kobile duster | 4 | 4,000 | 16,000 | 8,000 | 8,000 | - |

| Description of equipment items | Amount required for each item | Unit price US.\$ | Total cost US.\$ | 1979/80 | 1979/81 | 1979/82 |
|---|-------------------------------|------------------|------------------|---------|---------|---------|
| | | | | US.\$ | US.\$ | US.\$ |
| - Hand-sprayer and hand-duster | 30 | 125 | 3,750 | 2,500 | 1,250 | - |
| - Power sprayer | 30 | 300 | 9,000 | 4,500 | 4,500 | - |
| - Mower, engine type | 2 | 150 | 300 | - | 300 | - |
| - Fertilizer (ton) | 300 | 225 | 67,500 | 22,500 | 22,500 | 22,500 |
| - Chemical, (ton) insecticide, fungicide herbicide and rodenticide | 100 | 700 | 70,000 | 28,000 | 21,000 | 21,000 |
| <u>1. Seed Production</u> | | | | | | |
| - Seed Processing equipment complete set for both foundation seed and extension seed | 2 | 375,000 | 750,000 | - | - | 750,000 |
| - Cold warehouse (Prefabricated) | 7 | 75,110 | 525,770 | 225,330 | 150,220 | 150,220 |
| - Corn dryer | 8 | 1,000 | 8,000 | 5,000 | 3,000 | - |
| - Corn Sheller | 11 | 250 | 2,750 | 1,500 | 1,250 | - |
| <u>2. Irrigation improvement</u> | | | | | | |
| - Caterpillar, 140 H.P., D ₆ | 2 | 80,000 | 160,000 | 160,000 | - | - |
| - Caterpillar, 62 H.P., D ₃ | 1 | 25,000 | 25,000 | 25,000 | - | - |
| - Vibrational roller 1 ton | 1 | 10,000 | 10,000 | 10,000 | - | - |
| - Hydraulic excavator 60-80 H.P., Basket size 5/8 yard ³ | 1 | 80,000 | 80,000 | 80,000 | - | - |
| - Double wheel Ditcher for ditching 160 cm. width, 100 cm. depth and 30 cm bottom width. (Attachment to Tractor 70-80 H.P.) | 3 | 11,500 | 34,500 | 23,000 | 11,500 | - |

| Description of equipment items | Amount required for each item | Unit price US.\$ | Total cost US.\$ | 1979/80 US.\$ | 1979/81 US.\$ | 1979/82 US.\$ |
|---|-------------------------------|------------------|------------------|---------------|---------------|---------------|
| - Hydraulic dump truck, cap. 6 tons. | 4 | 19,000 | 76,000 | 76,000 | - | - |
| - Pay-loader, size 3/4 yard | 1 | 40,000 | 40,000 | 40,000 | - | - |
| - Water Tanker (Vehical) cap. 6,000 litres | 2 | 16,500 | 33,000 | 33,000 | - | - |
| - Water pumping unit (centrifigal) ø 12" Diesel engine 120 H.P. Cap. 4,000 US. Gallon/min, include sucker and hose complete-set | 7 | 25,000 | 175,000 | 100,000 | 75,000 | - |
| - Trailer 35 tons | 1 | 125,000 | 125,000 | 125,000 | - | - |
| - Sprinkler(motor type) for irrigation experiment | 2 | 1,500 | 3,000 | 3,000 | - | - |
| - Rain gun RG 50 | 1 | 150 | 150 | 150 | - | - |
| - Nozzle stand Rd 3 | 1 | 50 | 50 | 50 | - | - |
| - Hose | 20 | 20 | 400 | 400 | - | - |
| <u>2. Corn research</u> | | | | | | |
| - Wind velocity, Icada | 1 | 6,800 | 6,800 | 6,800 | - | - |
| - Rain Guage, Icada | 1 | 80 | 80 | 80 | - | - |
| - Hygro Thermometer | 1 | 150 | 150 | 150 | - | - |
| - Protein analyser | 1 | 2,000 | 2,000 | 2,000 | - | - |
| - Corn oil laboratory Nuclear Magnetic Resonance (NMR), For measuring oil content in corn kernel in second or minute in benefit of breeding program for high oil. | 1 | 100,000 | 100,000 | 100,000 | - | - |

| Description of equipment items | Amount required for each item | Unit price US.\$ | Total cost US.\$ | 1979/80 US.\$ | 1979/81 US.\$ | 1979/82 US.\$ |
|--|-------------------------------|------------------|------------------|---------------|---------------|---------------|
| - Soil laboratory analysis | 1 | 2,500 | 2,500 | 2,500 | - | - |
| - Seed counter, automatic | 3 | 200 | 600 | 600 | - | - |
| - Hand refractometer 0-32 Atage Vapan | 2 | 150 | 300 | 300 | - | - |
| - Oil analyser | 1 | 2,000 | 2,000 | 2,000 | - | - |
| - Soil moisture detector | 3 | 250 | 750 | 750 | - | - |
| - Flat bed dryer | 2 | 300 | 600 | 600 | - | - |
| - Electric heater, max. temp. 200°C for drying stover and grain in laboratory in connection with field study | 1 | 600 | 600 | 600 | - | - |
| - Chemical fertilizer application (4-row type) for applying fertilizer at bottom of ridging experiment | 1 | 2,000 | 2,000 | 2,000 | - | - |
| - Farm manure fertilizer application (4-row type) for applying farm manure on surface soil | 1 | 1,500 | 1,500 | 1,500 | - | - |
| 3. Plant Pathology and Entomology equipment for laboratory | | | | | | |
| - High power microscope with camera, camera lucida and photographic exposure meter | 1 | 1,900 | 1,900 | - | 1,900 | - |

| Description of equipment items | Amount required for each item | Unit price US.\$ | Total cost US.\$ | 1979/80 US.\$ | 1979/81 US.\$ | 1979/8 US.\$ |
|--|-------------------------------|------------------|------------------|---------------|---------------|--------------|
| - Stereo microscope | 1 | 1,000 | 1,000 | - | 1,000 | - |
| - Hot air oven | 1 | 200 | 200 | - | 200 | - |
| - Autoclave | 1 | 50 | 50 | - | 50 | - |
| - Haemocytometer | 1 | 75 | 75 | - | 75 | - |
| - Growth chamber | 4 | 75 | 300 | - | 300 | - |
| - Blender | 1 | 100 | 100 | - | 100 | - |
| - Hygro thermograph | 5 | 400 | 2,000 | - | 2,000 | - |
| - PH meter | 1 | 80 | 80 | - | 80 | - |
| - ULV Sprayer | 5 | 100 | 500 | - | 500 | - |
| - Humidifier | 2 | 50 | 100 | - | 100 | - |
| - Vacuum pump | 1 | 100 | 100 | - | 100 | - |
| - Freezing microtome | 1 | 100 | 100 | - | 100 | - |
| - Filar micrometer | 1 | 50 | 50 | - | 50 | - |
| - Spore trap (Downy mildew) | 1 | 200 | 200 | - | 200 | - |
| - An dark field zoom stereo microscope, with Photomicrographic system, | 1 | 10,000 | 10,000 | - | 10,000 | - |
| - An microscope model VANOX AHB | 1 | 6,700 | 6,700 | - | 6,700 | - |
| - Insect control rearing cabinet size 100 x 100 x 150 cm | 3 | 4,200 | 12,600 | - | 12,600 | - |
| - Soil insecticide applicator | 2 | 90 | 180 | - | 180 | - |
| - Insect egg counter with adapter for 220 V. | 2 | 80 | 160 | - | 160 | - |
| - Thermohygraph | 2 | 370 | 740 | - | 740 | - |
| - Automatic voltage regulator Autopower AC 170-230 | 1 | 1,400 | 1,400 | - | 1,400 | - |

| Description of equipment items | Amount required for each item | Unit price US.\$ | Total cost US.\$ | 1979/80 | 1979/81 | 1979/82 |
|--|-------------------------------|------------------|------------------|------------------|----------------|----------------|
| | | | | US.\$ | US.\$ | US.\$ |
| - Rotary shaker, R 1 - 4321 AC 170 - 230 V | 1 | 1,300 | 1,300 | - | 1,300 | - |
| - Ball mill, | 1 | 310 | 310 | - | 310 | - |
| - Stainless drums for ball mill, capacity | | | | | | |
| 120 x 120 mm. | 2 | 270 | 540 | - | 540 | - |
| 300 x 300 mm. | 2 | 1,700 | 3,400 | - | 3,400 | - |
| - Mini pump | 1 | 1,400 | 1,400 | - | 1,400 | - |
| - Table balance | 1 | 1,950 | 1,950 | - | 1,950 | - |
| - Thermo hygro tester Model TRH-1B | 1 | 640 | 640 | - | 640 | - |
| - Timer Camera | 1 | 1,350 | 1,350 | - | 1,350 | - |
| - Clean bench | 1 | 1,000 | 1,000 | - | 1,000 | - |
| - Anemometer | 1 | 95 | 95 | - | 95 | - |
| - Microapplicator | 1 | 450 | 450 | - | 450 | - |
| - Dissecting set | 2 | 130 | 260 | - | 260 | - |
| - Sieve | 2 | 50 | 100 | - | 100 | - |
| - Compression sprayer Cap. 8 litres. | 10 | 100 | 1,000 | - | 1,000 | - |
| Total | - | - | 3,028,335 | 1,627,665 | 455,450 | 945,220 |

Request for a Project Extension

(巡回指導チーム協議中 D A E,
Pest and Disease Control 部門
から提出あった部分: 本文第 4 章
- 2 - (6) 参照)

Project title : Maize Development

Requesting agency : 1. Co-operatives Promotion Department (CPD)
2. Department of Agriculture (DA)
3. Department of Agricultural Extension (DAE),
Ministry of Agriculture and Co-operatives.

Source of assistance : The Government of Japan.

Reffer. to Project Extension, Maize Development from 17
September 1979 to 16 September 1982. (2 nd R/D) The activity detailed
description number 5 and supplement 2., number 1.5.3. Department of
Agricultural Extension (DAE) for seed multiplication, Pest and disease
control.

Plant Protection Service Division Department of
Agricultural Extension responsible for Pest and disease control in
this project. In the first R/D requested for this Division, the
requirement still not complete yet and in this case it cannot work
throughtly and successfully. So, the Plant Protection Service
Division request the second R/D as the folling:

Supplement 1

Equipment to be required for six mobile units
in Insect and disease control : 1979 - 1982

| Description of equipment items | Amount required for each item | Unit price US.\$ | Total cost US.\$ | 1979/80 US.\$ | 1980/81 US.\$ | 1981/82 US.\$ |
|---|-------------------------------|------------------|------------------|---------------|---------------|---------------|
| <u>Plant Pest Control lead</u> | | | | | | |
| <u>Quarter</u> (Office equipment) | | | | | | |
| 1. <u>Vehicle</u> | | | | | | |
| 1.1 Hard top 4-wheel drive Jeep. | 1 | 9,400 | 9,400 | 9,400 | - | - |
| 1.2 Toyota land Cruiser station Wagon | 1 | 11,000 | 11,000 | 11,000 | - | - |
| 1.3 Diesel pick-up 1600 CC. | 1 | 8,000 | 8,000 | 8,000 | - | - |
| 1.4 Electric Fan 16" | 6 | 60 | 360 | 360 | - | - |
| 1.5 Calculating machine at least 12 digits with memory | | | | | | |
| 1.6 Refrigerator 11 ft ³ | 2 | 1,000 | 2,000 | 1,000 | 1,000 | - |
| 1.7 Air Condition 18,000 B.T.U. Window type. | 6 | 2,200 | 13,200 | 4,400 | 4,400 | 4,400 |
| 1.8 Water cooler 6 gallons/hr | 2 | 500 | 1,000 | 500 | 500 | - |
| 2. <u>Audio Visual Aids</u> | | | | | | |
| <u>Plant Pest Control</u> | | | | | | |
| <u>Training</u> | | | | | | |
| 2.1 16 mm. Movie Camera | 1 | 4,000 | 4,000 | 4,000 | - | - |
| 2.2 Camera OM-1 with Micro lens 55 mm.F. 3.5 and 35 mm.F. 2.8 accessories | 1 set | 800 | 800 | 800 | - | - |
| - auto bellows | 1 set | | | | | |
| - copy stand | 1 set | | | | | |
| - lighting set | 1 set | | | | | |
| - tube camp | 1 set | | | | | |

| Description of equipment items | Amount required for each item | Unit Price U.S. \$ | Total cost U.S.\$ | 1979/80 | 1980/81 | 1981/82 |
|---------------------------------------|-------------------------------|--------------------|-------------------|---------|---------|---------|
| | | | | U.S.\$ | U.S.\$ | U.S.\$ |
| - OM mount adaptor 1 set | | | | | | |
| - Tripod for camera | | | | | | |
| 2.3 Tape recorder Cassette AM - FM | 1 set | 1,000 | 1,000 | 1,000 | - | - |
| 2.4 Loud - Speaker | 2 set | 300 | 600 | 600 | - | - |
| 2.5 Slide projector complete set | 2 set | 300 | 600 | 600 | - | - |
| 2.6 Film for movie camera | - | - | 600 | 200 | 200 | 200 |
| 2.7 Stereo microscope | 2 | 1,500 | 3,000 | 1,500 | 1,500 | - |
| <u>Plant Pest Control Mobile Unit</u> | | | | | | |
| (6 Units) | | | | | | |
| <u>1. Vehicle</u> | | | | | | |
| 1.1 Hand top 4-wheel drive Jeep | 6 set | 9,400 | 56,400 | 28,200 | 28,200 | - |
| 1.2 Radio 100 w. (Sender - Receiver) | 4 set | 3,200 | 12,800 | 12,000 | - | - |
| 1.3 Power Knapsack sprayer | 55 set | 250 | 13,750 | 6,875 | 6,875 | - |
| 1.4 Shoulder sprayer | 10 set | 150 | 1,500 | 1,500 | - | - |
| Total | | | 142,410 | | | |

2. タイ政府からのプロジェクト延長要請書日本文(仮訳)

プロジェクト名： とうもろこしプロジェクト

要 求 機 関 ・ タイ農業協同組合省
協同組合促進局 (C P D)
農 業 局 (D A)
農 業 普 及 局 (D A E)

援 助 元 日 本 政 府

1 要請するプロジェクト延長期間

1979年9月18日～1982年9月19日

2 現時点のプロジェクト業績及び事業進捗状況の詳細

プロジェクトの展開と現況に関する報告は、この要請書の付録資料1に示されている。

3 プロジェクト実施期間中の主要な問題と障害

- 3 1 このプロジェクトの R/D 署名時期が、1977 年予算年度の開始 2 週間前であったため、タイ側の予算を措置するには、期間が十分でなかった。つまり、R/D 署名から新年度開始までの期間が、余りにも短かったため、このプロジェクトの初年目の予算を 1977 年のタイ国政府予算に含めることができなかった。

このことにより、プロジェクトの初期段階におけるプロジェクトの実施は明らかに緩慢に進展することとなった。

- 3 2 プロジェクトの事業活動は当初計画より遅れて実施されたが、この遅れは R/D 上に明記された日本人長期専門家の派遣の遅れ及び、センター内建物建設の遅延に部分的に影響された。

4. プロジェクト延長の必要理由

初期に直面した問題により、このプロジェクトの初期実施活動が停滞したことは明らかである。

これらの妨害が除去された後は、進展がなされてきたが、残された実施活動期間が短い
ため、R/D に示されている事業目的を成し遂げることはできないように思われる。

しかしその目的を成しとげることは、タイ国におけるとうもろこし開発にとって極めて肝
要なことである。

このプロジェクトの技術協力期間は1979年9月に終了するので、上述の目的を達成するためには、日本の技術協力期間は、更にある一定期間延長されなければならないが、この場合、少なくとも3年間は必要である。

プロジェクトの継続的成長を強化することによって、プロジェクト実施からもたらされる成果がとうもろこし生産性の改良に十分利用され又、農業協同組合の発展及び強化に寄与するであろう。

5 要請されたプロジェクト延長の詳細

5.1 プロジェクト目的： 1976年9月17日付のR/Dに示されているものと同じ。

5.2 延長されたプロジェクトの終結時に期待される実績及び延長プロジェクトの事業内容は、次のように年次別に計画される。

表1 延長プロジェクトの事業計画

| 活 動 | 1979/80 | 1980/81 | 1981/82 | 備 考 |
|-------------------|---------|---------|---------|-----------------------------|
| 実 用 試 験 (ha) | 3 | 3 | 3 | |
| 種 子 増 産 (ha) | 300 | 350 | 500 | 1981/82年までに1,000トンの普及用種子を生産 |
| 展 示 及 び 機 械 化 体 系 | 35 | 70 | 100 | |
| 研 修 (人) | 200 | 200 | 200 | 研修員は農協職員、組合員対象 |
| 農業協同組合管理についての巡回指導 | | | | 6農協の管理運営の改善 |

5.3 プロジェクト進捗状況の確認のためのデータ入手源

- a. 農 業 局
- b. 農業普及局
- c. 農協促進局
- d. 日本人専門家

5.4 プロジェクトサイト： 1976年9月17日付のR/Dに示されている場所と同じ。

5.5 プロジェクト事業計画と活動

5.5.1 詳細な事業計画： プロジェクトの詳細な事業計画は1976年9月17日付のR/Dの付属書1に明記されているようにマスタープランのB項に依拠している。

5.5.2 プロジェクト活動のタイムスケジュール
この要請書の付録2に示されている。

5.6 延長されるプロジェクトの職員配置

関係する局からの職員配置は次のとおりになる。

表2 タイ側職員の配置

| 区 分 | 人 数 |
|----------------|-----|
| C P D | |
| プロジェクト マネージャー | 1 |
| 合同組合 技術者 | 6 |
| 機械技師 (農業機械) | 2 |
| 研修官 | 2 |
| 事務職員 | 3 |
| 労務者 | 18 |
| 小 計 | 32 |
| D A | |
| 技術者 | 17 |
| 職員 | 15 |
| 書記及びサービスオフィサー | 6 |
| 労務者 | 12 |
| 小 計 | 50 |
| D A E | |
| 技術者 | 10 |
| 十級職員 | 17 |
| 事務職員 | 7 |
| 機械技師(種子調整プラント) | 1 |
| 電気技師 | 11 |
| 小 計 | 47 |
| 合 計 | 129 |

6 プロジェクト延長に要求される措置

6.1 専門家

表3 要請する専門家分野及び人員

| 区 分 | 合 計 | | 1979/80 | | 1980/81 | | 1981/82 | |
|-------------|-----|------|---------|-----|---------|-----|---------|-----|
| | 人員 | M/M | 人員 | M/M | 人員 | M/M | 人員 | M/M |
| チームリーダー(農学) | 1 | 36 | 1 | 16 | 1 | 12 | 1 | 8 |
| 採 種 | 1 | 36 | 1 | 16 | 1 | 12 | 1 | 8 |
| 栽 培 | 1 | 36 | 1 | 16 | 1 | 12 | 1 | 8 |
| 農 業 機 械 | 1 | 36 | 1 | 16 | 1 | 12 | 1 | 8 |
| 農 協 及 び 普 及 | 1 | 36 | 1 | 16 | 1 | 12 | 1 | 8 |
| 作 物 育 種 | (1) | (36) | 1 | 16 | 1 | 12 | 1 | 8 |
| 業 務 調 整 | 1 | 36 | 1 | 16 | 1 | 12 | 1 | 8 |

6.1.1 日本人専門家派遣の必要理由

このプロジェクトはとうもろこし生産地域における技術的レベルの改良、及び農業協同組合の改善に寄与するために意図されている。

従ってこの要請の主な狙いは、専門家がR/D上の種々の分野でプロジェクト実行を助けることである。

7 専門家全員は延長後のプロジェクト全期間にわたって必要とされる。

又、多くの短期専門家の派遣は、プロジェクト期間の事業実施上に問題点が生じた時に、その問題究明のために必要とされるであろう。

6.2 研修員受入

表4 研修員受入

| 区 分 | 合 計 | | 1979/80 | | 1980/81 | | 1981/82 | |
|-----------------|-----|-----|---------|-----|---------|-----|---------|-----|
| | 人員 | M/M | 人員 | M/M | 人員 | M/M | 人員 | M/M |
| 農 場 管 理 | 2 | 6 | 1 | 3 | 1 | 3 | - | - |
| 農 業 流 通 | 2 | 6 | 1 | 3 | 1 | 3 | - | - |
| 農 協 管 理 | 2 | 6 | 1 | 3 | 1 | 3 | - | - |
| 農 業 機 械 | 1 | 6 | 1 | 6 | - | - | - | - |
| 協 同 組 合 研 修 | 2 | 6 | 1 | 3 | 1 | 3 | - | - |
| 種子生産及び採種技術 | 9 | 27 | 3 | 9 | 3 | 9 | 3 | 9 |
| 栽 培 | 4 | 12 | 2 | 6 | 2 | 6 | - | - |
| 土 壌 肥 料 | 3 | 9 | 1 | 3 | 1 | 3 | 1 | 3 |
| 昆 虫 及 び 植 物 病 理 | 9 | 27 | 5 | 15 | 4 | 12 | - | - |
| 殺物栽培に関する灌がい | 2 | 6 | 1 | 3 | 1 | 3 | - | - |
| 視 察 研 修 | 12 | 8 | 6 | 4 | 6 | 4 | - | - |
| 合 計 | 48 | 119 | 23 | 58 | 21 | 49 | 4 | 12 |

6.2.1 研修員受入れの必要理由

プロジェクトを成功裡に実施するためには、下級職員に巾広い知識と経験を装備させる必要がある。それ故、農業及び協同組合分野で進んでいる日本でのタイ職員研修は、このプロジェクトにとって重要である。

なお、研修員受入れは、合計で36名、111 man-monthの期間が必要とされよ

この研修員は、日本人専門家の後任となる関係3局のプロジェクト職員に種々の研修を受けるために要求されているものである。

又、この研修員受入れには、本プロジェクト発展に関与しているCPD、DA、DAFの教職員に対する12名分の視察研修も要求されている。

6.3 機材

6.3.1 必要とされる機材は付録3の通りである。

6.3.2 必要とされている機材の必要性

プロジェクトの中核的プログラムは、下記の活動実施のための協同組合展示センターを設置することである。

作業技術に使用する土用試験、種子増殖、病虫害防除、普及及び展示；研修；農業機械化体系、農業協同組合管理に関する指導

それ故、付録資料3の資機材品目が、センター内及びプロジェクト地域の展示園地でのプロジェクト実施活動に極めて必要とされている。

7 延長プロジェクトへのタイ政府の分担

表5 タイ側予算

(単位：バーツ)

| 区 分 | 計 | | 1980 | 1981 | 1982 |
|-------------|------------------|------------------|------------|------------|------------|
| | 承認額 (1977-79) | 要求額 (1980-82) | | | |
| 1 給料及び賃金 | 606,100 | 6,789,300 | 2,039,300 | 2,250,000 | 2,500,000 |
| 2 操業維持費 | 898,100 | 10,635,800 | 2,345,800 | 3,870,000 | 4,420,000 |
| 3 機 材 費 | 826,600 | 6,754,900 | 1,954,900 | 2,300,000 | 2,500,000 |
| 4 建 設 費 | 8,673,000 | 16,082,600 | 6,082,600 | 5,000,000 | 5,000,000 |
| 5 種子購入の回転資金 | 500,000 | 3,700,000 | 1,000,000 | 1,200,000 | 1,500,000 |
| 6 その他 | - | 210,400 | 50,400 | 80,000 | 80,000 |
| 合 計 | 11,530,800 | 44,173,000 | 13,473,000 | 14,700,000 | 16,000,000 |

8. 将来の事業計画

日本の技術協力期間中、プロジェクトの結果は集積され始め、又、これらの結果はプロジェクト地域におけるとうもろこし及び農業協同組合の発展を刺激するのに活用されるものと予想されている。

技術協力の完結後、本プロジェクトはとうもろこし及び農業協同組合発展に関する複合体的活動の適切な成長を持続的に促進するように意図されている。

その事業から生ずる効果は増大しつづけ、とうもろこし生産を改良するために利用され、R/D に示されている6農協に限られることなく、とうもろこし生産県に事業している沢山の農協にまで大きく貢献するであろう。

一方、協同組合の売買事業も又、協同組合員の収入を向上できるように振興されるであろう。

プロジェクト発展過程において、協同組合員の高地作物の生産及び流通を改善する試みも、又、含まれている。

このプロジェクトから派生する結果は、この地域における農業及び農協の発展への主要因となると考えられる。

付 録 1

タイ国におけるとうもろこし開発に関する技術協力プロジェクト

経 過 と 現 状

1. プロジェクトの特徴

1.1 本プロジェクトは、1979年9月17日のR/D（別添資料）に基づき、開始された。

そのR/Dには3ケ年の相互協力プロジェクトとして明記されており、そのプロジェクトの目的はとうもろこしの品質改善、及び生産技術の改良を行ない、とうもろこしの生産性の向上を推進するとともに併せて農協の育成強化に貢献することであった。

1.2 プロジェクトはマスタープランに沿って、タイ・日農協間とうもろこし開発プロジェクトと密接に関連して実施される。

1.3 プロジェクトは毎年開催される合同委員会によって承認される年次事業実施計画に沿って、実施される。

プロジェクト実施についてのマスタープラン

1.4 本プロジェクト実施のためのマスタープランは次のとおりである。

1.4.1 プロジェクトの構成

プロジェクトは次の3つの主要成分から構成されている。

すなわち、

- (1) R/D 上の目的を達成するために協同組合展示センターをロブプリ県に設置する。
- (2) プロジェクトはロブプリ、サラブプリ、ペチャブーン、ピサノロック、スコタイ県をカバーしており、次の6農協とプロジェクト地域内の5つの農民グループは重要な普及基地となる。

ロブプリ県のチャイバタン農協

- サラブプリ県のプラプタバード開こん農協
- ペチャブーン県のペチャブーン農協
- ヒサノロック県のプロンピラン農協
- ヒサノロック県のノントン農協
- スコタイ県のサワンカローク農協

約80ライ(13ha)の展示圃場は協同組合(ペチャブーン農協、ノントン農協、サワンカローク土地改良協同組合を除く)とプロジェクト地域の各農民グループに設置される。

- (3) 種子生産圃場はセンター内及び周辺の適当な農家圃場に設置される。種子生産圃場として要求される面積はプロジェクト3年目で大体1,400ライ(225ha)になる。

1.4.2 プロジェクトの事業活動

- (1) 生産技術の実用試験
- (2) 種子増殖
- (3) 病虫害防除
- (4) 展示及び普及
- (5) 種子生産及び栽培の改良技術に関する技術研修
- (6) 農業機械化体系
- (7) 農業協同組合管理に関する研修

1.5 このプロジェクトは農業と協同組合の発展を同時に進めるために実施されるものであり、プロジェクト実施を行なう機関として次のタイ国農業協同組合省の3局がある。

1.5.1 協同組合促進局(CPD)

CPDは普及及び展示、研修、農業機械化体系、農業協同組合管理の指導、農業機械及び施設の維持並びに修理における活動を直接的に実施するための責任の他、関係局と密接に協力してこのプロジェクトの運営・管理する責任をもっている。

1.5.2 農業局（DA）

DAは、種子増殖活動のためにDAEに供給するべく良系統の原種子を生産すること及び生産技術、病気防除のための実用試験活動を実施する責任がある。

この局は、又、展示、普及、研修活動に技術援助を与える。

1.5.3 農業普及局（DAE）

種子増殖事業、病虫害防除事業の実施に関する責任がDAEにおかれている。

この局は、又、普及、展示、研修活動に協力する。

財 政

1.6 このプロジェクトはコロンプランの下で行なわれる実施協力計画であり、日本、タイ両政府共同で資金が供給される。

1.6.1 日本側負担

日本政府からの寄与は、R/D上の種々の分野における専門家の派遣、資機材供与、プロジェクトのカウンターパートに対する研修員受入を行なう。

日本側の負担した推定額は次のように要約される。

a. 1977-1979年間のプロジェクトの下での活動を実行するための資機材供与額

| | | |
|---------|---|---------------|
| 1977年支出 | ¥ | 89,731,578 |
| 1978 " | ¥ | 88,017,000 |
| 1979 " | ¥ | 61,903,000 |
| | | 計 239,651,578 |

b. 研修員受入れ

次のような研修員受入はタイ-カウンターパートが日本で研修するために1977-1978年に実施される。

| <u>分 野</u> | <u>人 数</u> |
|------------|------------|
| 協 同 組 合 | 1 |
| 農 業 機 械 | 1 |
| 種 子 技 術 | 1 |
| 種 子 生 産 | 1 |
| 視 察 研 修 | 2 |
| | 計 6名 |

c. 専門家派遣

次の日本人長期専門家が1977-1978年の間に派遣された。

| <u>分 野</u> | <u>人 数</u> |
|------------|------------|
| チームリーダー | 1 |

| | |
|---------|-------|
| 栽 培 | 1 |
| 農 業 機 械 | 1 |
| | 計 3 名 |

1.6.2 タイ国側負担

タイ国政府によって支出される推定コストは、用地、建物、給料、賃金、事務ワークのための用品及び施設、プロジェクトの実施に必要な運営経費をカバーする。

タイ国によって支払われるべき推定コストは次のように要約される。

| | | | |
|-------|------------|------------|-------|
| 1978年 | 建物及び建設 | 4,290,000 | バーツ |
| 1979年 | 及びその他 | 7,240,800 | バーツ |
| 1980年 | 建物、建設、給料 | 13,472,000 | バーツ |
| | 賃金、運営及びその他 | | (要求額) |

2 1977年予算年度から1978/1979における事業の結果(1979年2月28日現在)

2.1 プロジェクトサイト

当初 R/D に述べられたセンターの設置場所は、ロブプリ県ムアング郡に変更された。これは DA のプラプタバード試験場内の一画約 110 ライ (17.5 ha) に設置されている。

上述のセンターサイトの変更に関するノートは CPD の局長と日本側の巡回指導チームの団長との間で、1978年8月9日に署名された。

2.2 建設事業

2.2.1 センターを収容するべく 13 棟の建物は 1978/1979 予算年度で予算化され、現在建設されており、その内、事務所、研修寮、住宅などの 9 棟は 1979 年 4 月に完成する計画である。

種子調整プラント、乾燥機、貯蔵庫、研究所の残り 4 棟は 1979 年 5 月に完成される予定である。

2.2.2 センターの地下深井戸の建設工事(新水中ポンプ直径 3 inch、20 馬力、60 m、ポンプ小屋を含む)は 1978 年 12 月に完成された。

送水ポンプ(直径 4 inch × 200 m)の地下配管及び消費水量メーター(新ポンプに取り付けられる)の取付けは、1979 年 1 月に終了した。

2.2.2 項の建設工事の費用は 500 万円であり、日本政府より支出された。

2.2.3 50 トンのとうもろこし種子を収容できるプレハブ低温倉庫の設置は 1978 年 10 月に開始され、この倉庫の操業は、1978 年 11 月以来行なわれている。

2.2.4 建物及び施設は 1979 年の予算年度(1978 年 10 月～1979 年 9 月)に他の 24 棟がセンターに増設されるが、その建設工事は現在 CPD、DA、DAE によって華

備されている。

2.3 圃場事業

2.3.1 1978年雨季

a. 実用試験及び展示

種子生産のための試験及び展示活動が4～9月の間センターにおいて次のように1ha実施された。

- 1 作付体系試験
- 2 植生試験
- 3 播種時期試験
- 4 N肥料施用試験
- 5 系統試験
- 6 種子増殖

依託契約による農家圃場での乾季作の種子生産は次のように実施された。

| <u>場 所</u> | <u>作付面積</u> | <u>種子収穫量</u> |
|------------|-------------|--------------|
| プラブタバード | 15 ha | 50 トン |
| パクチョン | 40 ha | 30 トン |
| 計 | 55 ha | 80 トン |

2.3.2 1978/79 乾季

a. 実用試験事業

1haの種子生産のために次のような試験が1978年12月以来実施された。

- 1 作付体系試験
- 2 系統 "
- 3 かんがい試験

b. 展示事業

栽培技術のための機械化体系の展示(1ha)は1979年2月に開始された。

c. 種子増殖事業

サワンカローク土地改良協同組合の組合員圃場で16haのとうもろこしの作付が1978年11月に開始された。

なお、これにはモデルファームも又、含まれている。

1979年7月には30トンの種子の収穫が得られるものと思われる。

2.4 研修事業

研修事業用建物の建設工事では、第1期(1979年4月まで)に寮が建設される。従って協同組合職員、同組合員及び、農民を対象に行なわれるセンターでの研修コースは、1979年の予算年度内では2コースに限定される。なお、各コースの生徒数の枠は、約

50名を計画している。最初のコースの開始時期は播種期（4～5月）後の6月に実施される予定であり、第2回目の研修時期は収穫期後の7月又は8月上旬に実施される見込みである。

コースはとうもろこし栽培技術、農業機械の運転操作・維持管理・修理、協同組合の融資・売買及び協同組合管理の科目に集約されるであろう。

種々の研修コースの詳細なプログラム及びカリキュラムは関係局及び日本人専門家の協力の下でCPDによって準備されている。

2.5 その他

2.5.1 R/D に明記されているプロジェクト合同委員会の第1回会合が1978年8月7日にバンコクで開かれた。

2.5.2 プロジェクトの管理委員会は1979年2月に組織されるが、メンバー構成は農業協同組合省の官房、促進局、農業局、普及局、予算局、人事委員会のそれぞれの代表から成っており、農業協同局の次官補（Mr. Surin Cholpraserd）がこの委員会の議長である。本委員会はプロジェクト報告のみならず、プロジェクト管理、技術開発の機能を果たすと思われる。

なお、プロジェクト進展の報告及び勧告は合同委員会に提出されるであろう。

表6 機材供与要請額（品目リスト省略要請合計額のみ抄訳）

| 合 計 額 US. \$ | 1979/80 US. \$ | 1979/81 US. \$ | 1979/82 US. \$ |
|-----------------|-------------------|-------------------|-------------------|
| 3,028,335 | 1,627,665 | 455,450 | 945,220 |

3. 期間延長に関する討議々事録署名文
及び暫定事業実施計画書



EXTENSION NOTE FOR THE RECORD OF DISCUSSIONS
CONCERNING THE TECHNICAL COOPERATION PROJECT
ON MAIZE DEVELOPMENT IN THAILAND

The Japanese Technical Advisory Team (hereinafter referred to as "the Team") organized by the Japan International Cooperation Agency and headed by Mr. Motonaga Ohto, visited Thailand on August 1st, 1979.

The Team had a series of talks with the authorities concerned of the Government of Thailand on the extension of the period of technical cooperation based on the Record of Discussions, signed in Bangkok on September 17th, 1976, concerning the technical cooperation project on maize development in Thailand.

As a result of talks, both sides agreed to recommend to their respective governments that the period of the technical cooperation mentioned in the Record of Discussions be extended until September 16th, 1982.

Bangkok, August 16th, 1979.

Mr. Motonaga Ohto
Head of the Japanese
Technical Advisory Team,
Japan International
Cooperation Agency

Mr. Adul Piyawiphat
Director-General,
Cooperatives Promotion Department

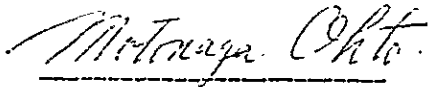
in the presence of

Mr. Kujati Irracholpol
Director-General
Department of Technical
and Economic Cooperation

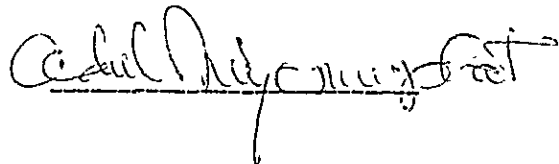
The Tentative Schedule for Implementation
of the Technical Cooperation Project
on Maize Development in Thailand

The Japanese Technical Advisory Team and the Authorities concerned of the Government of Thailand had jointly formulated the Tentative Schedule for Implementation of the Project for the period of September 1979 - September 1982, based on the Record of Discussions of September 17, 1976, as attached herewith. The Schedule was discussed and approved on August 14, 1979, by the Joint Committee organized under the Record of Discussions mentioned above.

Bangkok, 16th. August, 1979



Mr. Motonaga Ohto
Head of the Japanese
Technical Advisory Team,
Japan International Cooperation Agency



Mr. Adul Niyomviphat
Director General,
Cooperatives Promotion Department

Meeting of the Joint Committee
Technical Cooperation Project on Maize Development in Thailand
Ministry of Agriculture and Cooperatives, Bangkok
August 14, 1979

List of Participants

Thai side

| | | | |
|-----|--------------------------|--|-----------|
| 1. | Mr. Surin Cholpraserd | Deputy Under-Secretary of State for Agriculture and Cooperatives | Chairman |
| 2. | Mr. Adul Niyomviphat | Director-General of CPD | Member |
| 3. | Mr. Somphot Suwanwong | Deputy Director-General of DA | " |
| 4. | Mr. Wallop Wittayaprapat | Project Manager | " |
| 5. | Mr. Chumnan Chutkaew | Coordinator for DA | " |
| 6. | Mr. Petcharat Wannapee | Coordinator for DA&E | " |
| 7. | Miss Perarat Aungurarat | Coordinator for CPD | " |
| 8. | Mr. Sutin Susila | DTEC Representative | " |
| 9. | Mrs. Prachit Kambhu | Budget Bureau Representative | " |
| 10. | Mr. Vanrob Isarakura | MOAC | Secretary |

Japanese side

| | | | |
|-----|-----------------|---|--------|
| 11. | Mr. M. Ohto | Leader of the Japanese Advisory Team | Member |
| 12. | Mr. T. Itabashi | Japanese Advisory Team | " |
| 13. | Mr. F. Wada | Japanese Advisory Team | " |
| 14. | Mr. M. Ashida | Japanese Advisory Team | " |
| 15. | Mr. T. Yamaki | Leader of the Japanese Expert Team | " |
| 16. | Mr. H. Sakamoto | Japanese Expert | " |
| 17. | Mr. K. Nonaka | Japanese Expert | " |
| 18. | Mr. C. Saika | Japanese Expert | " |
| 19. | Mr. Y. Shimizu | Japanese Expert | " |
| 20. | Mr. T. Jibiki | JICA Bangkok Representative | " |

/ Observers

Observers

- | | |
|-------------------------------|---------------|
| 21. Miss Savanee Isarakura | MOAC |
| 22. Mr. Kasem Prasut-sangchan | MOAC |
| 23. Mr. Ruangchai Boonyananta | CPD |
| 24. Mr. Jirojana Ittaratana | DTEC |
| 25. Mrs. Hansa Kaewbandhit | Budget-Bureau |

1979 Year 1980 1981 1982 2

9 10 11 12 1 2 3 4 5 6 7 8 9 10 11 12 1 2 3 4 5 6 7 8 9

| | Assistance to Disease and Insect Control Program of DAE in the Project Area | | | | | | | | | | | | | |
|--|---|--|--|------------------------|--|--|------------------------|--|--|------------------------|--|--|--|--|
| <p><u>Access and Insect Control</u></p> <p><u>Training</u></p> <ol style="list-style-type: none"> 1. Agricultural Cooperatives Course 2. Agricultural Machinery Course 3. Maize Cultivation Course 4. Seed Production Course 5. Disease and Insect Control Course <p>Guidance Service on Agricultural Co-operative Management</p> <p>Guidance on Planning and Management of Co-operative Activities</p> | | | | 200 Persons 4 Times | | | 300 Persons 6 Times | | | 400 Persons 8 Times | | | | |
| to the Cooperatives in the Project Area | | | | | | | | | | | | | | |

- Notes: 1. This Schedule is subject to change according to the Budget allocation to the Project.
2. This Scope of Technical Cooperation is subject to change, if necessarily arises in the future within the scope of the provisions given in the Record of Discussions.

Annex 2 The Assignment Schedule of Japanese Experts

| | | 1981 | | | | | | | | | | | | 1982 | | | | | | | | | | | | |
|---|---|-----------|----|----|----|---|---|------|---|---|---|---|---|------|----|----|----|---|---|------|---|---|---|---|---|---|
| | | 1979 Year | | | | | | 1980 | | | | | | 1981 | | | | | | 1982 | | | | | | |
| | | 9 | 10 | 11 | 12 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
| 1 | Team Leader (36 M/M) | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2 | Seed Production (36 M/M) | | | | | | | | | | | | | | | | | | | | | | | | | |
| 3 | Cultivation (36 M/M) | | | | | | | | | | | | | | | | | | | | | | | | | |
| 4 | Farm Machinery (36 M/M) | | | | | | | | | | | | | | | | | | | | | | | | | |
| 5 | Agricultural Cooperatives & Extension (36 M/M) | | | | | | | | | | | | | | | | | | | | | | | | | |
| 6 | Seed Production Cum Coordinator (35 M/M) | | | | | | | | | | | | | | | | | | | | | | | | | |
| 7 | Short-term Experts | | | | | | | | | | | | | | | | | | | | | | | | | |
| 8 | Japanese Mission | | | | | | | | | | | | | | | | | | | | | | | | | |

Replacement or Extension

Planning

Advice

Advice

Evaluation

Notes: 1. This Schedule is subject to change according to the budget allocation to the Project.

2. This Scope of Technical Cooperation is subject to change, if necessity arises in the future, within the scope of the provisions given in the Record of Discussions.

4. 開所式祝辞及び報告文

1 日本大使館湯下参事官祝詞

Speech by Mr. Hiroyuki Yushita, Counsellor of Japanese Embassy at the Inauguration of the Cooperative Demonstration Center (Maize Development Project), August 17, 1979.

Your Excellency - Deputy Minister Professor Rapi, Deputy Under-Secretary of State for Agriculture and Cooperatives, Governor, Director-Generals, Distinguished guests, Ladies and Gentlemen.

It is a great pleasure and honour for me to be here today, on behalf of the Ambassador and representing the Government of Japan, to attend the inauguration of the Cooperative Demonstration Center for the Technical Cooperation Project on Maize Development in Thailand.

Thailand is one of the most important agricultural countries in Asia and her national economy is based on agriculture, of which maize is no doubt one of the main products. The increase of maize production has greatly contributed to the improvement of the life of farmers and the growth of Thai economy. And yet, the average yield of maize in Thailand has not reached the level attained in other leading maize producing countries. The maize production in Thailand has, thus, room for further increase through improvement of breeding and production technology. It is my understanding that the Cooperative Demonstration Center which is inaugurated today is a remarkable step forward for an increased production of maize against such background.

This Center will serve as the key forum for the research in the field of maize production in Thailand. The activities of the Center, such as provision of improved varieties, seed multiplication, and training of technology of cultivation as well as cooperatives will provide a great opportunity for the maize production in Thailand to maximize its potential.

In response to the request of the Government of Thailand, the Government of Japan has extended its cooperation to this project in the forms of expert service, fellowships, as well as equipment and materials worth approximately 235 million yen so far, and is willing to continue its cooperation in the future.

It is memorable that this Cooperative Demonstration Center is opened in the Year of the Farmers., I sincerely hope that this Center will prove a great success and that maize production in Thailand will be further developed for the good of the whole nation.

Ladies and Gentlemen, may I now propose a toast to lasting friendship and cooperation between our two countries.

Thank you.

August 17, 1979

Greeting from Mr. Shinsaku Hogen, President of
Japan International Cooperation Agency
- at the opening ceremony of the Cooperative
Demonstration Center for Maize Development
in Thailand -

Your Excellency - Dupty. Minister of Agriculture and Cooperatives,
Distinguished Guests, Ladies and Gentlemen,

I deem it a great honour that I have been given an opportunity
to say a few words on behalf of the Japan International Cooperation
Agency at this auspicious opening ceremony of the Cooperative
Demonstration Center Maize Development Project.

As you may recall, the Record of Discussions between the
Royal Thai Government and Japanese Government was signed in September,
1976 in order to promote maize production, to develop agricultural
cooperatives and to modernize agriculture in Thailand. Since that
time, a three year cooperation project has been implemented.

Following the arrival of Mr. Tetsuji Yamaki, Team leader, in
October 1977, five Japanese experts have jointed him to engage in the
preparatory work of the Project and practical experiment in close
cooperation with Thai counterparts.

The preparatory stage is now over and the Project is ready to
proceed to its full-fledged development.

Until now, agricultural equipment and materials worth 235
million yen were provided by the JICA for implementation of the
Project. Today, you may observe the trial operation of the maize
seed processing plant which will process extension seeds to be
distributed to maize producing farmers.

Besides this project, the JICA offers a group training course
in Japan to officials of Thai agricultural cooperatives and farmers
under the Thai-Japan Maize Agreement every year with the cooperation
of the Japanese agricultural cooperative organizations. This

/ training course....

training course would directly contribute to the transfer of modern technology for building infrastructure necessary for cooperatives activities.

I am happy to convey to you a good news that a document was signed between the Japanese Technical Advisory Team and the Thai Authorities concerned on August 16, 1979 on the extension of cooperation for a further three-year period.

I hope that this project will proceed successfully and contribute to promote friendly and cooperative relations between our two countries.

Thank you.

Shinsaku Hogen
President

Address by H.E. Rapi Sakrik, Deputy Minister of Agriculture and Cooperatives
at the Opening Ceremony of the Cooperative Demonstration Centre
Koktoom, Ampur Muang, Lop Buri Province
on Friday 17 August 1979 at 10:00 hours

Mr. Counsellor, the Representatives of Japan International Cooperation
Agency, the Deputy Under-Secretary of State, the Governor, Director-Generals,
Distinguished Guests, Ladies and Gentlemen,

It is indeed a great honour and a real pleasure for me to be here,
this morning to officiate at the opening of the Cooperative Demonstration
Centre of the Maize Development Project.

In recent years, maize has become a most important economic crop of
Thailand as well as a major earner for foreign currency of the country,
fetching an income of over 4,000 million baht a year. Moreover, it is a
principal raw material for local animal feed industry. Thus, increasing
maize production to meet the demand is of vital importance both nationally
and internationally.

As a developing country, Thailand suffers from numerous constraints
in our attempt to increase agricultural products. High rate of population
growth in the rural area, limited arable land, shortage of production
inputs -- to name a few -- are chronic problems as compared with unfavourable
climatic conditions and variations in the world market prices which
fluctuate from year to year. The energy crisis, on the other hand, which
is effecting all sectors in every part of the world, has not helped the
situation. The task of agricultural development is, therefore, a very
complex one, challenging all branches of technological as well as social
disciplines.

I am most happy, however, to note that the Department of Cooperatives
Promotion has been chosen to be responsible for the Project. As we all
know, cooperatives are a form of modern social devices which many countries

throughout the world, irrespective of their political ideals, have adopted as an integral part of their national development plan. It remains for each and everyone of us, therefore, to show that the system does not only work in our country but that it works successfully as well.

Mr. Counsellor, on behalf of the people and the Government of Thailand, may I take this opportunity to express our sincere appreciation to the Government and the people of Japan for their kind and valuable support in the development of maize and agricultural cooperatives in Thailand. I am confident that the results to be derived from our joint deliberations and cooperation will greatly improve the productivity of maize in this region. Also, I wish to record here, my appreciation for the officials concerned from the various agencies namely, the Budget Bureau, the Department of Technical and Economic Cooperation, the Civil Service Commission Office and the Public Welfare Department for the cooperations given to the Ministry of Agriculture and Cooperatives.

At this auspicious moment, I declare the Cooperative Demonstration Centre of the Maize Development Project open. Thank you.

4. センター開所式報告文

Report delivered by Mr. Surin Cholpraserd,
Deputy Under-Secretary of State for Agriculture and Cooperatives
at the Opening Ceremony of the Cooperative Demonstration Centre
Koktoom, Ampur Muang, Lop Buri Province
on Friday 17 August 1979 at 10:00 hours

Your Excellency, Mr. Counsellor, Representatives of the Japan
International Cooperation Agency, Distinguished Guests, Ladies
and Gentlemen,

May I first take this special occasion to express our
heartfelt thanks to His Excellency the Deputy Minister of
Agriculture and Cooperatives, the Counsellor of the Embassy of Japan
and the representatives of the Japan International Cooperation
Agency for honouring this opening ceremony of the Cooperative
Demonstration Center of Maize Development Project.

Please allow me now to touch upon the background and
highlights of the development of this project. As you may be
well aware, the production of maize in Thailand has become
increasingly more important due to the increase in demand, both
at home and abroad. In response to this increasing demand for
maize, the planted area has expanded remarkably, from 7 million
rai in 1973 to 8 million rai in 1977 while the yield per rai has
remained constant, at about 320 kg/rai in the same period. In
other words, the increase in maize production has been achieved
mainly through the expansion of cultivated area. Given certain
structural constraints in Thailand, low productivity technology,
diminishing availability of cultivated area, and rapid rural
population growth, we are now facing a declining agricultural
growth rate, an increase in the level of rural unemployment,
as well as low income throughout the rural areas.

In full realization of these problems, steps have been
taken to set up cooperation projects to improve maize productivity
by employing modern agricultural methods and intensifying

activities of agricultural cooperatives. In 1975 three projects were planned by three Departments of the Ministry of Agriculture and Cooperatives, namely, the Department of Agriculture, the Department of Agricultural Extension, and the Cooperatives Promotion Department. These projects were formulated and presented to the Government of Japan in an effort to increase maize productivity through the strengthening of agricultural cooperatives. Upon the receipt of these requests, the Government of Japan through the Japan International Cooperation Agency dispatched three missions to do a survey on the feasibility of maize development in 1975 and 1976 to exchange views on various aspects of maize and cooperative development in Thailand as well as to formulate a concrete cooperation plan. Under this new plan, the three Departments concerned jointly offer their services through the Cooperative Demonstration Center which serves as coordinator for the project. Finally, the Record of Discussions between the Japanese Agricultural Survey Team and the Thai authorities concerned was signed on the 17 September 1976.

Under the said Record of Discussions, the Cooperative Demonstration Center has been established to enhance the productivity of maize and contribute to the development of agricultural cooperatives and the modernization of agriculture through the improvement of maize quality and its production technology. The construction of facilities and buildings, including an administration office, seed processing plant, seed storage, laboratory, dormitory, auditorium, workshop, garage and staff housing, have been provided by the Government of Thailand, while the Government of Japan has supplied all necessary equipment used therein. These facilities will be used to conduct programmes such as seed processing, experiments, demonstration of advanced techniques and farm mechanization systems and for training of cooperative staff and cooperative members as well as farmers.

The project area covers five major maize producing provinces; Lop Buri, Saraburi, Phetchabun, Phitsanulok and Sukhothai in which six agricultural cooperatives and five farmer's groups have been selected as the key extension bases. The six cooperatives selected as the key

extension bases are Chaibadan Agricultural Cooperative in Lop Buri Province, Phra Phutthabat Reclamation Agricultural Cooperative in Saraburi Province, Phetchabun Agricultural Cooperative in Phetchabun Province, Prompiram Agricultural Cooperative and Nongtom Agricultural Cooperative in Phitsanulok Province and Sawankhalok Land Settlement Cooperative in Sukhothai Province.

The first phase of this technical cooperation project is three years, starting from the date of signing. During this period, seven development activities in the fields of applied experiments for production techniques, seed multiplication, disease and insect control, extension and demonstration, technical training in seed production and improved cultivation techniques, agricultural mechanization system and guidance on the management of agricultural cooperatives have been planned. Although the implementation of these activities will take less than two years, they are expected to achieve the desired purpose within a reasonable period of time. It is firmly believed that after the completion of construction of necessary facilities which we expect to complete in the fiscal year 1980, these facilities will serve about 10,000 farm households with a total 200,000 rai of maize cultivating area. We plan to train 400 farmers each year. The training will be divided into 8 classes with a course length of 1 week and 50 trainees per class. For the coming crop season the project is expected to produce 500 tons of good maize seeds to supply to the maize growers in the project area and conduct two farmer training courses.

Assistance for the project from the Government of Japan includes equipment, experts, and training courses for Thai counterparts in Japan. A total grant of 235 million yen's worth of equipment plus additional expenses in Thai currency of about 960,000 baht for construction of underground deep well and road in the Center have been donated. Six long term Japanese experts in the fields of agronomy, farm machinery, and agricultural cooperatives have been assigned to provide guidance and assistance

in project execution in the fields concerned. And eight fellowships in the fields of agricultural cooperatives, farm machinery, and seed technology have been provided. Contributions from the Government of Thailand include buildings and construction, salaries and wages, supplies and equipment for office work and running expenses. Estimated costs to be born by Thailand in the fiscal years 1978 and 1979 total 11.53 million baht.

As the first 3 years of cooperation will terminate in September 16, 1979, the parties concerned agreed to extend the period of technical cooperation for three more years so as to attain the desired goal. A new proposal was drawn up and conveyed to the Government of Japan in June 1979 for consideration. A meeting between the Thai and Japanese authorities was held on August 8 - 14, 1979 to discuss and formulate the plan, in accordance with the first phase, for the implementation of the second phase of this technical cooperation. And the Note for the Extension of the Project Period between the Thai and Japanese authorities was signed on the 16 August 1979. The second phase is three years, starting from the date of completion of the first phase.

In addition, I am very pleased to inform you that the Public Welfare Department of the Ministry of Interior has provided about 110 rai (17.5 ha) of land as a new site for the Center. Also the Department of Technical and Economic Cooperation, the Budget Bureau and the Office of the Civil Service Commission have extended their full supports and coordination for the establishment and development of this project.

May I take this auspicious occasion to request the honour of Mr. Hiroyuki Yushita, the Counsellor of the Embassy of Japan to deliver the address on behalf of the Government of Japan, Mr. Motonaga Ohto to deliver the message of the President of Japan International Cooperation Agency - Mr. Shinsaku Hogen, and Your Excellency the Deputy Minister of Agriculture and Cooperatives to deliver the address on behalf of the Government of Thailand and officially open the Cooperative Demonstration Center of Maize Development Project.

5. 本調査団 Scope of Work

Scope of Work

I. Introduction

The Technical Cooperation Project on Maize Development in Thailand started on September 17th, 1976 and six Japanese experts on the fields as mentioned in the Record of Discussions of the project have been sent to Thailand to implement the project in 1978 and 1979. And also two Japanese short-term experts were dispatched to Thailand to install the maize seed processing plant. Because of the difference of fiscal year between Japanese and Thailand and a sharp rise of land price for The Cooperative Demonstration Center, the project implementation was delayed. However the cooperation period of the project will be expired on 17th September, 1979. Thai authorities officially proposed the three-years extension of the period of technical cooperation until September 16th, 1982 to accomplish the purpose mentioned in R/D. Therefore the Japan International Cooperation Agency organized the Technical Advisory Team headed by Mr. Motonaga Ohto from August 1st, 1979 to August 20th, 1979 to have discussions with Thai Government authorities.

II. Outline of the team's activities

The purpose of the team are:

- (1) To review the progress and present situation of the project implementation
- (2) To observe the Center and seed producing farms.
- (3) To discuss on the extension of the cooperation period of the project.

- (4) To formulate the tentative implementation schedule of the project for three-years period.
- (5) To attend the opening ceremony of the Center.

III. Reports

After discussions on the extension of the cooperation period of *a note for the extension* the project, a note for the extension and a tentative implementation schedule for the extended three-years will be made between the Thai authorities and the Japanese Team.

Bangkok, August, 1979

Japanese Technical Advisory Team
Japan International Cooperation Agency

JICA