

ヴィエトナム社会主義共和国

プロジェクト・ファインディング調査報告書

市場経済化に向けての

ホーチミン市近郊農業農村開発計画調査

平成 13 年 3 月

社団法人 海外農業開発コンサルタント協会

## まえがき

本報告書は、社団法人海外農業開発コンサルタンツ協会が派遣した山崎隆可(日本工営株式会社、国際事業本部)が、ヴェトナム国にて実施したプロジェクト・ファインディング調査結果に基づいて作成されたものである。

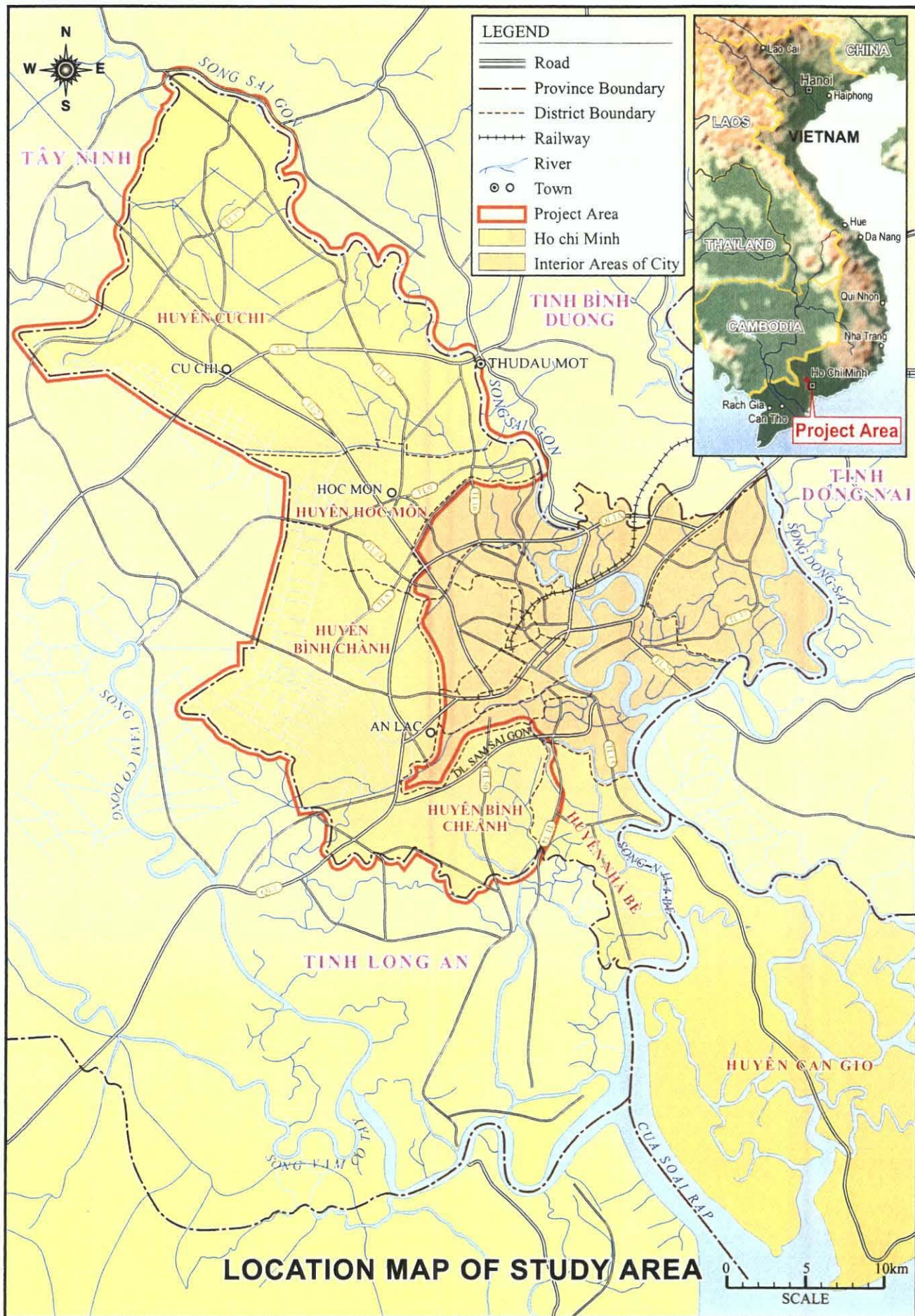
調査は平成 12 年 11 月 30 日から 12 月 12 日の間実施され、この間資料収集及び相手国政府機関との協議を実施するとともに、現場調査を実施した。

本案件の調査結果は次章に記してあり、また、調査団の調査行程、面会者リスト、及び調査団長略歴はそれぞれ付属資料 1-3 に示す通りである。

調査団は調査実施に際し、ヴェトナム国政府機関並びに日本大使館、国際協力事業団の現地事務所及び派遣専門家の方々に多大なる協力を得、円滑に業務を遂行することが出来た。これら関係諸機関及び関係者に深甚なる感謝の意を表する次第である。

平成 13 年 3 月

プロジェクト・ファインディング調査団長  
山崎 隆可





## 調査地区写真



Dong Canal East (2 次水路) から  
3 次水路を望む



Dong Canal East 幹線水路。  
野菜生産農家による不法盗水



排水不良地における果樹園（パイナップル  
及びマンゴー）の造成



野菜畑のフラッド灌漑



野菜畑の灌漑



チリの栽培状況



# ヴィエトナム社会主義共和国

## プロジェクト・ファインディング調査報告書

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## 1. ヴィエトナム国の概況

### 1.1 基本統計資料

ヴィエトナム国の人口、自然環境、経済、インフラ、及び貿易・財政に関する基本資料は別表 1 の通りである。

### 1.2 社会経済概況

ヴィエトナム政府は、国家経済の活性化を目的として、1988 年に計画経済体制から市場経済への移行と、農家の自主的生産・販売を基本とするドイモイ政策を発足させた。この政策に基づき、国営企業の独立採算制への移行、農業分野では画期的な農業請負制を導入を敢行し、ヴィエトナム経済は基本的には良好に推移した。これにより、1989~1993 年までの年平均実質 GDP 成長率は 6.9%を示し、その後も順調に伸びた結果、1995 年には 9.5%、1996 年には 9.3%、また、1997 年には 8.8%と高い経済成長率を示したが、1998 年にはアジアを襲った通貨危機の影響を受け、3.8%と低い伸びに留まった。過去 10 年間にこのような高い経済成長を示したにも拘わらず、この発展は都市部に集注し、全人口の約 80%を抱える地方農村部での貧困率は 57%と都市部の貧困率に比べて 2 倍以上であり、都市部と地方との経済格差の広がり、この国の大きな問題となっている。

経済体制は、中央集権的な経済体制から市場経済が比較的普及している地方分権的なものへと移行している。一方、貿易経済は、市場経済による貿易の重要性が増大し、現在その体制の調整段階にある。これらの根本的な経済改革において、新たな経済政策が徐々に導入され、水産業、農業、工業及び加工工業の部門において、海外貿易での利益をもたらすようになった。1997 年における各産業別の全輸出額に占める割合は、農林水産業が 35%、工業が 28%、軽工業が 37%であった。

### 1.3 農業概況

ヴィエトナム国土の土地利用は、国土総面積のうち、約 1,800 万 ha(55%)が農林生産活動に利用されており、そのうち農地が 674 万 ha、残りの 1,126 万 ha は森林となっている。また、農地のうち 553 万 ha は普通作物に、83 万 ha が果樹園、残りの 58 万 ha は主として牧草地又は養魚地として利用されている。一人当たりの農地は 0.09ha と極めて小規模である。耕地面積は地域格差が大きく、人口密度の高い紅河デルタ地域は一人当たり 0.06ha であるのに対し、メコンデルタでは一人当たり 0.17ha となっている。また、未墾地のうち約 410 万



ha が耕作地に転換可能であり、そのうち 100 万 ha が灌漑可能であると見なされているが、農地開発には巨額な資本を必要とするため、急速な発展は望めない。また、地方では、ヴェトナムの国土は森林伐採と土壌流亡の危機にさらされており、また、両デルタのうち 300 万は塩類土壌と酸性土壌であるとされている。

ヴェトナムは本質的には米作を基本とする農業を経済ベースとしている。農業、林業及び漁業を含む農業セクターは国の総生産額の 26% を占め、また、全人口の 80%、総輸出額の 35% を占める。ヴェトナムはメコンデルタと紅河デルタの 2 大穀倉地帯を有しているが、互いに遠距離に位置し輸送手段が不十分なため、農産物の流通に関して問題を生じている。また、国土の地形及び地勢から、熱帯もしくは亜熱帯作物に適していると言えるが、従来水稻作を中心に行われてきており、食用穀物の生産(米生産高が、その 85% 以上をしめている)粗農業生産額の 64% 近くを占めている。食用穀物生産量は 1998 年においては米換算で 3190 万トンに達し、そのうち米は 2910 万トンであった。他の食用作物では甘藷、キャッサバ、野菜などが主要なものである。天然ゴムは重要な輸出作物であり、また、茶、コーヒー、ココヤシ、砂糖黍等の生産も盛んである。

ヴェトナムでは、未だに人口の大半が農業及びその周辺産業に携わっている。従って、農産物及び水産物の輸出が外貨獲得に大きく貢献するようになることが望まれており、特に農業セクターでの成功が、経済政策の目標達成にとって大きな鍵を握っている。それは地方労働力を如何に効果的に動員するかにかかっており、このことは農村レベルにおける機能的な組織体系、作物生産高の増大、収穫物のタイムリーな供給及び農村基盤整備と技術力の普及に依存している。

#### 1.4 農業開発政策

ヴェトナム政府は、ドイモイ政策とこれに伴う一連の経済社会改革及び上記農業の現状を重要視し、以下に述べる農業開発政策を打ち出している。

- a. 国の長期開発計画の中で農業を重要分野の一つとして取り上げ、農業の進行を開発政策の中で重点項目として取扱う。
- b. 農家単位が農業分野の改革を行う上で主たる機動力となることを考慮し、農業経営規模を技術革新と共に拡大させる。
- c. 農業部門は環境的、生態的に持続性をもたせる。
- d. 農業協同組合は、普及、灌漑及び獣医等の分野を含むサービス分野に焦点を絞る。
- e. 国営企業は、必要なノウハウ投入資材の確保及び収穫後処理に焦点を当て再構

築する。

- f. 農業部門は世界の市場に対応できるように対外的に展開する。
- g. 国内市場開発に当たっては食物と食糧消費の多様化及び改善を十分考慮する。
- h. 余剰農業労働力はできる限り農村工業及びサービス業で吸収する。

このような農業開発政策の実施は、現在まで大きな成功をおさめつつあるが、ドイモイ政策開始後 10 余年を経過した現時点では、市場経済への移行政策という制度改革による農民・商人への経済的インセンティブ付与だけでは農業成長が大きな限界を迎えていることが明らかとなりつつある。課題として指摘されていることは、人口稠密で土地不足という状態の農業をどのように開発するかという問題である。

## 2. ホーチミン市近郊農業農村開発計画の概況

### 2.1 ホーチミン市の農業概況

ホーチミン市は総面積約 2,090Km<sup>2</sup>、人口約 506 万人を有するベトナム最大の都市である。行政区分上は州 (province) と同格の特別市であり、22 の県 (District) で構成されている。この内 17 県は市街化地域であり、5 県が農村地域である。地域別土地及び人口の分布は、市街地地域が総面積 21% (440Km<sup>2</sup>)、415 万人 (82%) であり、農村地域が 79% (1,654Km<sup>2</sup>)、92 万人 (18%) である。人口の伸び率は年約 2.8% であり、急激な発展を遂げつつある。

農村地域は主に以下の 3 地域に区分される。

- **Zone 1:** Cu Chi 県の全部、Hoc Moc 県の大部分、Thu Duc 県の北部及び Binh Chanh の畑作地帯；この地帯は肥沃な gray soil と豊富な地下水を有しており、稲作、工芸作物、野菜及び畜産が盛んな地帯である。ホーチミン仕向け野菜の約 70% がこの地帯で生産されている。特に、Cu Chi 県の中部及び北東部にかけての約 20,000ha については 1991 年に世銀融資によって完成した Kinh Dong Canal による灌漑が実施されており、これによって水稻・水稻・野菜の 3 毛作が可能となり、農家の所得の向上に寄与している。また、畑地帯における野菜栽培は主に井戸を利用して灌漑が行われており、また Kinh Dong Cannal 沿いの多くの農家は水路から Illegal な取水による野菜栽培を行っている。
- **Zone 2:** Binh Chanh 県の多くの部分、Hoc Moc 県の東部及び南部、Tue Duc 県の南部及び Nha Be 県の北部；この地帯の一部はホーチミン市街地に隣接し



ている。土壌が強硫酸酸性土壌であり雨季には湛水するため local variety を使用した水田 1 毛作が主体である。この Zone では過去に政府によって新規水路の開削が進められ、また 2 次/3 次水路の密度が高まり、水稻栽培が可能となった。さらに、3 年前から世銀による Hoc Moc Bac Binh Chanh Irrigation Project が実施されており、これによって水稻 2 期作或は硫酸酸性土壌に適応可能な果樹 (Ex. Sour Sop Tree) や野菜の導入が漸次すすめられている。

- Zone 3: Can Gio 県の大部分は年間を通じて塩水が遡上している地帯であり、一部で local variety を使用した水稻が栽培されているが主に養殖漁業が盛んな地帯である。

このような農業現況の下で、ホーチミン市は 2010 年を目標とする社会経済開発マスタープランを策定し、本マスタープランをベースに市農業・農村開発局 (Service of Agriculture and Rural Development) は 2010 年に向けた農業土地利用計画及び野菜振興計画を策定し、また市食料保障委員会 (Food Security Committee) は食料安全保障計画を策定している。

これらの計画によれば、土地利用については、農地面積は 2000 年の約 9 万ヘクタールから 7 万ヘクタールへの減少となり、その殆どが Zone 2 の地帯で生じると見込まれている。農業生産計画では農業所得の増大のために、米を含む穀物生産の比率を下げ、野菜、工芸作物及び果樹等高価値作物の比重を高める計画となっている。また野菜の需給見通しに関しては、現在の域内生産量 30 万トンを生産性の向上によって 38 万トンに増加させても現在の不足量約 24 万トンが約 28 万トンに増加するものと見込んでいる。

## 2.2 ホーチミン市近郊農業農村開発上の問題

大都市市場を有する都市近郊農業においては、市場経済化の下ではその立地的なアドバンテージを活かした農業を行うことによって農業所得拡大の余地は極めて大きいものがある。しかしながら、農業多様化の兆しが生まれつつあるとはいえ、上記の各種開発計画を実現させる上でホーチミン市の農業を取り巻く社会経済的環境には、多くの問題を抱えており、特に以下の問題に対してその改善対策が早急に必要とされている。

- (1) ドイモイ政策の開始以来の市場経済に向けての経済・社会制度改革の結果、農業生産性の向上が見られる一方、急激な制度改革の結果として農村部では農業生産と販売及び農民組織の再編に多くの問題が見られるようになっている。この点に関しては国際協力事業団が日・ヴ両国合同調査として実施した石川教授を団長とする「ヴィエトナムの市場経済化調査」において指摘されているとおりであり、同調査の農

業部会が行っている勧告の実施がホーチミン市の農業開発のみでなくヴェトナム国の農業開発にとって緊要な課題と考えられる。主な具体的な事例としては、以下のような事例が挙げられる。

- － 旧体制下において実施されていた農産物域外移動の禁止の結果、農産物流通に必要な基礎インフラ及び市場が未発達である。特に流通は仲買人－小売のシステムが主体で、卸売市場が存在していない。ホーチミン市の人口の増加に伴う農産物需要の増大及び将来的に全国レベルの物流が必須な状況を勘案すればこの点の改善は緊要である。
- － 1990 年以前の農産物販売は、国营農場及び合作社で生産された農産物を“Food and Agriculture Company(FAC)”が独占的に販売・輸出していたが、1992 年から農産物の販売及び価格の自由化が実施された。農民或は農民グループはこれまで直接販売をする必要がなかったため、倉庫、輸送手段等を含む収穫後処理施設を所有していなかった。生産から販売までを農民個人の責任において実施せざるを得ない現状況下において、農民は農産物の販売において困難な状況に置かれている。
- － 既存の灌漑・排水施設の維持管理は、基本的には市、県及び行政村によって行われている。具体的には、各行政レベルにおいて State Company が設立され、受益農民からの管理費をベースに独立採算制のもとで維持管理を行っているが、行政による一方的な管理、不十分な使用料の徴収率、不十分な維持管理、灌漑に比して不十分な排水機能等各種の問題を抱えている。
- － 農業協同組合法が 1996 年に制定され、今後同法に基づき従来の国家補助による生産農業組合/合作社から農民の自発的組織としての農協の設立が加速化するものと思われる。1997 年時点で協同組合は 1997 年時点で 20 組合存在しており、その内の 13 組合が活動している。協同組合の組合員比率はホーチミン市全農家戸数の 3.9%に過ぎない。
- － また、農業振興を図る上で必須な小農に対する農業金融も協同組合と表裏一体の問題として考える必要がある。しかし、協同組合の促進には、組合に対する農民のミス・アンダースタンディング、関係者の意識不足、資本不足、組合の有効性を示すためのモデル組合不在等の問題がある。

(2) ホーチミン市の市街地及び農村部の住民の所得及び生活水準の格差が拡大し同市の大きな社会問題となりつつある。これがホーチミン市の経済開発の円滑な発展を阻害しつつある。



- (3) 特に Zone 2 地帯においては、ホーチミン市街地に隣接する地域では農地の無秩序な改廃が進んでおり、健全な農業生産の発展にとって大きな支障となっている。一方、同地域の西部は常習洪水地帯であり、これが地域の安定的な農業発展の支障となっている。
- (4) エィエトナム国民は生野菜を食する傾向が強いが、ホーチミン市の農林業大学 (University of Agriculture and Forestry of HCMC) の調査によれば生産農民は多量の農薬を使用するにもかかわらずその使用基準、使用方法等についての知識が不十分であり、この結果、販売されている野菜には残留農薬が基準量を超す者が多いことが指摘されている。

これらの農業開発上の問題は、程度の差はあるがヴィエトナムの 5 特別市に共通する市場経済化の移行に伴って生じた問題と見られている。特にホーチミン市の場合はヴィエトナム最大の商工業都市であるだけに、問題の顕在化が際立っている。

## 2.3 ホーチミン市近郊農業農村開発計画

以上のような現地踏査結果及びホーチミン市関係当局との協議の結果、以下のような開発調査の実施が望ましいとの合意に達した。

### (1) 調査対象地域

Cu Chi 県、Hoc Moc 県及び Binh Chanh 県の 3 県とする。(他の Nha Be 及び Can Gio の両県を対象地域に含めない主たる理由は、湛水水田地帯であり、都市近郊農村開発の対象として適当と思われないことによる。)

### (2) 調査の基本方針

本プロジェクトはヴィエトナム国における市場経済化に伴って生じた諸問題の解決を促進し、かつ、市場経済化における望ましい都市近郊農業あり方を具現化するため、市場経済化が最も進んでいるホーチミン市をモデルとして農業農村開発計画を策定するものとする。

### (3) プロジェクトの目的

上記基本方針を踏まえ、特に以下の事項に留意しつつ市場経済下での農業セクターの再編及び強化を図ることとする。

- (ア) 農地使用权の下での土地生産性の向上及び作物多様化
- (イ) 市場経済化における農民の組織化及び農業金融の強化
- (ウ) 市場経済化に見合った農産物流通システムの改善
- (エ) 市場経済化における効率的な農業支援事業システムの改善
- (オ) 灌漑・排水システムの改善及び農民参加による灌漑・排水維持管理システムの構築及び農村部における基礎インフラの整備

## 2.4 開発調査への提言

ヴェトナム国の農業開発を進めるに当たっては、国際協力事業団が実施した「ヴェトナムの市場経済化調査」における農業開発に係わる諸提言を早期に実証することが望ましい。このため、ヴェトナムの最大都市であり、かつ、問題が最も顕在化しているホーチミン市都市近郊農業をモデル地域として開発調査を早期に実施することを提案する。

本計画の効果的な実施には、中長期的な展望にたつてホーチミン市の3県を対象としたマスタープランを実施し、そこで策定されたプロジェクトのうち事業効果が高かつ早急に実施することが望ましい複数のプロジェクトについてフィジビリティ調査を行ない、具体的な実施計画を立案することが望ましい。

本開発調査の要請状案は添付資料1の通りである。

(参考)：調査対象地域(Cu Chi 県、Hoc Moc 県及び Binh Chanh 県)の現況

- － 面積約 841Km<sup>2</sup>、人口約 795 千人、農家戸数約 65 千戸
- － 気象：年平均気温 27℃（最高 4 月の 28.8℃4 月、最低 12 月の 25.7℃）  
平均日照時間 6.8/時間/日、年平均降雨量 1,500~2,100mm(約  
80~90%は 5 月から 11 月の間に降る)



－ 主な作物栽培面積（1999 年）

作物	栽培面積	収穫量
水稻	57,583 ha	180,800 ton
野菜及び雑豆	6,875 ha	118,070 ton
落花生	3,207 ha	5,591 ton
タバコ	175 ha	276 ton
砂糖黍	4,177 ha	199,726 ton

別表ー1

## ヴェトナム国の基本統計資料

	1,995	1,998	1,999
<b>自然環境関係</b>			
Surface area (thousand sq. km)	331.7	-	-
Forest area (sq km)	91,170.0	-	-
Annual deforestation (% of change)	1.4	-	-
Freshwater resources per capita (cubic meters)	-	-	-
CO <sup>2</sup> emissions, industrial (metric tons per capita)	0.4	-	-
Safe water, urban (% of urban population with access)	-	-	-
Sanitation, urban (% of urban population with access)	-	-	-
Commercial energy use (kg of oil equivalent per capita)	397.4	-	-
Electric power consumption (kwh)	144.7	-	-
<b>人口関係</b>			
Population, total (million)	73.0	76.5	77.5
Population density (people per sq km)	224.2	-	-
Population growth (annual %)	1.8	1.4	1.3
Life expectancy at birth, total (years)	-	68.4	-
Fertility rate, total (births per woman)	2.7	2.3	-
Mortality rate, infant (per 1,000 live births)	-	33.6	-
Mortality rate, under-5 (per 1,001 live births)	-	42.0	-
Malnutrition prevalence (% of children under 5)	-	39.8	-
Urban Population (% of total)	19.4	19.6	19.6
Population density, rural (people per sq km)	1,067.7	-	-
Illiteracy rate, adult male (% of males 15+)	5.0	4.7	4.6
Illiteracy rate, adult female (% of females 15+)	98.9	9.4	9.0
School enrollment, primary (% net)	98.9	-	-
School enrollment, secondary (% net)	51.9	-	-
<b>経済関係</b>			
GDP at market price (current US\$; billion)	20.2	27.2	28.6
GDP growth (annual %)	9.5	5.8	4.2
GNP per capita, Atlas method (current US\$)	250.0	350.0	370.0
Agriculture, value added (% of GDP)	28.4	25.7	-
Industry, value added (% of GDP)	30.0	32.6	-
Services, value added (% of GDP)	41.7	41.7	-
Exports of goods and services (% of GDP)	36.3	-	-
Imports of goods and services (% of GDP)	47.1	-	-
Gross domestic investment (% of GDP)	27.1	28.7	-
Current revenue, excluding grants (% of GDP)	23.1	18.2	-
Overall budget deficit, including grants (% of GDP)	-0.5	-1.1	-
Money and quasi money growth (annual %)	24.8	23.5	-
<b>インフラストラクチャー</b>			
Telephone mainline (per 1,000 people)	10.5	25.8	-
Roads, paved (%)	25.9	-	-
<b>貿易及び財政</b>			
Trade (% of GDP)	11.8	13.1	-
Foreign direct investment, net inflow (current US\$; billion)	1.4	1.2	-
Present value of debt (current US\$; billion)	-	20.6	-
Total debt services (TDS, current US\$; million)	363.9	1,100.0	-
Short-term debt outstanding (DOD, current US\$; billion)	3.3	2.2	-
Aid per capita (current US\$)	11.3	15.2	-

## 付属資料

TECHNICAL COOPERATION  
BY  
THE GOVERNMENT OF JAPAN

APPLICATION

by

The Government of the Socialist Republic of Vietnam

for

Development Study

on

Agricultural and Rural Development Project

towards

Market-Oriented Economy

in

Ho Chi Minh City

to

The Government of Japan

**1. Project Digest**

**1.1 Project Title**

Agricultural and Rural Development Project towards Market Oriented  
Economy in Ho Chi Minh City

**1.2 Location**

Ho Chi Minh City (Attachment – 1)

**1.3 Implementing Agency**

(a) Name of Agency: Department of Agriculture and Rural Development of Ho  
ChiMinh City in partnership with Southern Institute of Water Resources  
Research

(b) Organization of Agency

Organization Chart of ..... (Attachment – 2)

## **1.4 Desirable Implementation Schedule**

(a) Development Study : Approximately 12 months from middle 2001

(b) Implementation : Approximately three (3) years from 2003

## **1.5 Prospective Funding Sources**

(a) Development Study (Grant): Japan International Cooperation Agency  
(JICA)

(b) Implementation : Japan International Cooperation Agency  
(JICA) and Japan Bank for International  
Cooperation (JBIC)

## **2. Background and Justification of the Project**

### **2.1 General Background of the Project**

Upon the economic recession during 1970s, the Government introduced Doi Moi (renovation) policy from 1987, privatizing state enterprises, relaxing regulations for private sector, and stimulating farmer's incentive through contract farming. As a result, the annual growth rate of gross domestic product (GDP) recorded higher levels of 7% to 9% throughout 1990s.

The economic system has been in transition to the decentralized economy, penetrating into market economy. The international free trade also increases an importance for the economy, while it is still at adjustment stage. In this sequence, the Government carries out macro economic structural adjustment in order to achieve financial market equilibrium.

The most population of Vietnam still belongs to agriculture and its sub-sector. Consequently, a success of agricultural sector is a necessary condition for sustainable growth, and depends on effective use of rural labor.



## 2.2 Agricultural Development Policy

Following the principle of Doi Moi, many policies have been enforced putting a main emphasis on the market-oriented economy. In particular, the Government's controlled prices have been abolished, and the activities of private sector have been encouraged to a great extent.

Such change of policy has brought about a big development in the Vietnam economy. In the agriculture sector, it has largely been developed in 10 years from 1987 to 1997 through attainment of independent land tenure system, establishment of agricultural credit system, and development of agricultural technology and expansion of irrigated lands. However, the development of Vietnam agriculture is hindered by insufficiency of agricultural land, poor rural infrastructure, many unemployment, shortage of development fund and high poverty.

The Government, recognizing the above-mentioned circumstances, established the following basic concepts.

- (a) Taking the agriculture to be one of the most important sectors in a long-term development program, the strengthening of this sector should be supported by the national development policy.
- (b) Considering that the activation of each farm household is very important for a reformation of agriculture sector, the farm size should be expanded in keeping a pace with the development of agricultural techniques.
- (c) Agriculture sector should be sustainable from the environmental and ecological viewpoints.
- (d) The task of the agricultural cooperative should be concentrated on the services including agricultural extension, water management and veterinary care.
- (e) State enterprises should be re-structured putting their main emphasis on supply of agricultural inputs and post-harvest of agricultural products.
- (f) Agriculture sector should be so reinforced as to cope with the international marketing.
- (g) For domestic marketing, agriculture sector should be improved through the diversification of food crops and food to be consumed.
- (h) A surplus of farm labors should be absorbed in the industrial and service sectors.

In addition to the above national agricultural development policy, it is noticeable that the recommendations on the agricultural development have been made

in the study report on economic development in the transition toward a market-oriented economy in Vietnam (Phase-II), which was executed by JICA in 1998 as Japan and Viet Nam joint study headed by Prof. Sigeru Isikawa and Dr. Ngeyen Quanz Thai (Vice President of Development Strategy Institute, MPI), respectively.

Major recommendations are as follows:

- (a) To improve/develop physical agricultural infrastructure for promoting agricultural diversification and job creation, particularly emphasis on the followings areas:
  - to improve transportation facilities including marketing roads in rural areas,
  - to construct wholesale markets within urban and rural areas, respectively,
  - to develop irrigation and drainage facilities corresponding to specific area conditions and marketing potential.
- (b) To improve agricultural marketing system for farmers and their organizations to facilitate better access to markets, particularly emphasis on the followings:
  - to encourage the establishment of farmers' organizations,
  - to establish a semi-governmental agency for the promotion of agricultural export and the provision of agricultural marketing information,
  - to strengthen the agricultural credit system.
- (c) To secure the full participation of farmers and their organization for implementing infrastructure development, preparing agriculture related systems, and implementing the policy measures related to the rural development.

### **2.3 Agriculture in Ho Chi Minh City**

Ho Chi Minh City (HCMC) is located in the middle of the southern provinces being the largest cultural and economic center of the country as well as one of the international commercial hubs in the Southeast Asia region. The City covers an area of 2,094 km<sup>2</sup> with a population of 5,064 thousand sharing 6.6% of the total national population in 1999. The annual population growth rate is 2.2%, of which 1.4% is natural growth and 0.8% is provincial-urban migration.

Administratively, the City is consisted of 22 districts, of which 17 are urban districts with about 4,1476 thousand inhabitants making their living on industry and services. The other 5 districts: Cu Chi, Nha Be, Hoc Mon, Thu Duc, Binh Chanh and Can Gio, are rural covering over 1,653 km<sup>2</sup> (79%) with a population of nearly 920

thousand. The persons engaged directly in agriculture are estimated at 430 thousand.

HCMC is located in the monsoon tropical zone characterized by two relatively separated seasons: rainy season from May to October and dry season from November to April. The monthly mean temperature is 27°C varying from 25.7°C in December to 28.8°C in April. The annual average rainfall is ranging from 1,500 to 2,100mm and over 80% falls during the months of May to October.

The agriculture in the City is divided into the following three zones:

**Zone I** includes Cu Chi district, large part of Hoc Mon district, the northern part of Thu Duc district and the upland part of Binh Chanh district, covering an area of 74,000 ha, accounting for 35% of the total area of the City. With abundant land, ground water potential and fertile gray soil, farmers have grown staple crops, industrial crops and vegetables as well as raised cattle, pig and poultry. About 100% of peanuts, 70% of vegetables, 50% of sugarcane, 50% Of paddy of the total production of the City has been produced in this zone.

**Zone II** includes major parts of Binh Chanh district, the eastern and southern part of Hoc Mon district, the southern part of Thu Duc district and the northern part of Can Gio district, covering an area of 75,000 ha including 14,000 ha of urbanized areas. The large part of agricultural land in this Zone contains acid sulfate. Farmers have cultivated paddy, vegetables and sugar cane as well as raised poultry and fish.

**Zone III** includes large part of can Gio district, covering an area of 57,000 ha. The land has been intruded by saline water throughout a year. The area has the fauna for saline water.

The basic agricultural statistical data in 1999 are as follows:

(a) Number of farming population:	354,661
(b) Number of farming households:	71,185
(c) Total sown area by farm	
- State farms	2,449ha
- Collective farms and individual farmers	96,683ha
(d) Sown area of annual crops and their production:	

<u>Crops</u>	<u>Area (ha)</u>	<u>Production(ton)</u>
Paddy	77,749	225,543
Other cereals	1,570	4,296
Vegetables	10,187	182,251
Industrial crops	8,136	215,386
Other annual crops	1,490	1,149

## **2.4 Problems to be Solved in the Sector**

### **2.4.1 Agricultural Development Plan In Ho Chi Minh City**

Under the present agricultural circumstances stated above, the Government of HCMC has formulated the Master Plan of Socio-Economic Development of HCMC towards 2010 in 1996. The master plan indicates the overall orientation of agriculture in HCMC to meet increasing demand for food supply to the city as well as to enhance living standard in rural areas of the city, which has significantly been disadvantageous compared to the urban areas. The targets set in the master plan are: to assist farmers for acquiring advanced production skills; to upgrade and construct basic infrastructure; to consolidate marketing systems; and to improve and conserve the environment to assure sustainability in development.

In order to materialize overall goals stipulated in the master plan, the Government of HCMC has also formulated the sector development plans in 2000-2010: Food Security Program of HCMC; Plan for Agricultural Land Use; Vegetable Production Stabilization and Development Program; Livestock Development Plan; and Fruit Tree Development Program.

According to the above sector development plans, agricultural lands have been forecasted to be decreased from 90 thousand hectare in 1990 to 70 thousand hectare in 2010, and large part of the decrease will mainly occur within the Zone 2. High value crops such as vegetables, industrial crops, and fruit trees have been given much weight in the crops' production plan while cereals including rice have been planned to lower their production ratio on the whole. As for the vegetables production forecast, it projectes that the present shortage of 240 thousand ton will increase by 280 thousand ton in 2010 even if the vegetable production in HCMC increase from the present level of 300 thousand ton to 380 thousand ton.

### **2.4.2 Problems to be solved**

The agriculture in the suburbs of HCMC has a big development potential through utilizing its advantage being close to the largest market in Vietnam. In the present socio-economic circumstances, however, there are many difficulties for

achieving the targets set forth in the HCMC's agricultural development plans stated above. Particularly, the followings are the matters to be solved urgently:

- (a) Agriculture in Viet Nam has achieved impressing high growth performance since the start of Doi Moi policy. The systematic reforms of managing agricultural production and marketing has been centered on relaxing the government's command on the farming and marketing activities and giving the freedom of decision making to the farmers and merchants. This systematic reform was necessary for agricultural growth, but is not sufficient for the further growth to develop the agriculture sector and reduce the poverty in the rural area. As the study on economic development in the transition toward a market-oriented economy in Vietnam pointed out, it is not sufficient for promoting further growth only to provide the market incentives to the farmers through the systematic reform. Vietnamese farmers are facing the underdeveloped market institutions, suffering from the "market-failures" caused by the imperfect market especially of products and credit, and lacking the capability to gather the information regarding the markets of agricultural products. Farmers also face the small-size markets mainly result from the shortage of physical infrastructure.

These problems are the fundamental constraints not only in country as a whole but also in HCMC. In order to overcome the problems, the following measures are absolutely needed for the agricultural development in HCMC:

- (i) To improve/develop physical agricultural infrastructure for promoting agricultural diversification and job creation, particularly emphasis on the followings areas:
  - to improve transportation facilities including marketing roads in rural areas,
  - to construct wholesale markets within urban and rural areas, respectively,
  - to develop irrigation and drainage facilities corresponding to specific area conditions and marketing potential.
- (ii) To improve agricultural marketing system for farmers and their organizations to facilitate better access to markets
  - to encourage the establishment of farmers' organizations,
  - to establish a semi-governmental agency for the provision of agricultural marketing information,
  - to strengthen the agricultural credit system.



- (c) In HCMC, income and living standard disparity between urban and rural areas has been growing. While high poverty incidence can be generally seen in the whole rural area, the escalation disparity has brought particularly a serious socio-economic problem and impeded the well-balanced economic development in HCMC. Many people are still living in poverty and struggling to survive in the rural areas. Thus, combat and alleviate disparity between the urban and rural areas through the agricultural development as well as job creation is essential and crucial for HCMC.
- (d) In order to promote the agricultural development, another problem in HCMC is the disordered and vermiculated conversion from farmland to other lands such as industrial and residential lands. This conversion can be mainly seen in Zone II, particularly in the fringe of urban districts in Zone II. In this circumstance, a proper land use plan is necessary for the sound agricultural development in suburbs of HCMC.
- (e) Farmers, particularly vegetable producing farmers, have been over-applying pesticides without appropriate knowledge. Such over-dosage of chemicals has been causing inverse impacts on the environment as well as damages on health of producers and consumers. According to the survey results of the University of Agriculture and Forestry, chemical residue and heavy metal contents in agricultural produce and farmland soil were extremely higher than the standard of FAO. It was also pointed out that application of pesticide barely before harvesting leads to high chemical residue in plants. Such pesticide application can lead and have led to frequent health damages cases. Thus, it is urgently needed to introduce proven practices such as safe vegetable production and integrated pest management and establish systematic measures to supply safety food to HCMC's inhabitants.

## **2.5 Outline of the Project**

### **(1) Objective of the Project**

The main objective of the Agricultural and Rural Development Project towards Market Oriented Economy in HCMC (hereinafter referred to as the Project) is to establish profitable and diversified production base and efficient marketing system for agricultural products through overcoming all difficulties that lie under the market-oriented economy. This Project will also be expected as a model project for the agriculture development in the suburbs of large cities like HCMC. To sustain and accelerate the objective, the Project needs to address the following issues:

- (a) Strengthening of marketing system through price stabilization, provision of rural market infrastructure, promotion of market development and farmers' organization and establishment of rule and regulation;
- (b) Strengthening of support services and facilities by ensuring credit accessibility and saving mobilization in the rural areas, improving extension, information and other support services, promoting agricultural industries, minimizing agricultural risks and strengthening farmers' organization; and
- (c) Strengthening of the production system through efficient use of lands, improvement of farm technology and appropriate management and conservation of land and water resources through improvement of irrigation and drainage system;

## **(2) Project Components**

The Project will consist of the following components:

- (a) Improvement of marketing facilities in the producing sites and HCMC;
- (b) Improvement of agricultural support services such as seed and nursery centers, agricultural credit, and strengthening of agricultural extension system;
- (c) Establishment of agricultural cooperatives which will have the functions of marketing of agricultural products, agricultural credit, and rental of agricultural machinery;
- (d) Improvement of agricultural infrastructure including improvement of irrigation and drainage facilities and farm road network;
- (e) Establishment of an effective water management and O&M system.

## **3. Terms of Reference of the Proposed Study**

The terms of reference for the master plan for the Project is presented in Attachment- 2

## **4. Facilities and Information for the Study Team**

- (1) Assignment of Counterpart Personnel of the Implementing Agency for the Study

The Implementing Agency; Department of Agriculture and Rural Development (MARD) of HOMC, has a capacity to assign counterpart personnel corresponding to the number of Study Team to be organized by the Government of Japan.

- (2) Available data, Information, Documents, Maps etc. related to the Study
  - (a) Meteo-hydrological data,
  - (b) Topographic maps on a scale of .....,
  - (c) Soil maps on a scale of..... ,
  - (d) Agricultural Statistics,
  - (e) Statistical Yearbook,
  - (f) All information and existing study reports available at the offices relevant to the Project

- (3) Information on the Security Conditions in the Study Area

There is no security problem in the Study Area

## 5. Global Issues

- (1) Environmental Issue

The environmental impact assessment should be done within a framework of the Study in order to formulate a plan with the minimum sdverse effects on natural and social environment and mitigation measures.

- (2) Women in Development

Women constitute overwhelming majority of farmers in Vietnam. The Government makes a deliberate effort to ensure the place of women in the main stream of development. Therefore, the Study will verify the need for more involvement of women and constrains they face. The proposed plan should be formulated with a particular attention to women in development.

- (3) Poverty Reduction Components of the Project

Farmers' economy would be largely improved due to increase of agricultural production and their working conditions will be improved by introducing of post-harvesting facilities and new marketing system after implementation of the Project.

- (4) Any Constraints against the Low Income People Caused by the Project

None

## **6. Undertakings of the Government of Vietnam**

In order to facilitate a smooth and efficient conduct of the Study, the Government of Vietnam shall take necessary measures mentioned below:

- (a) To facilitate the safety of the Study Team;
- (b) To permit the members of the Study Team to enter, leave and sojourn in the country in connection with their assignment therein, and exempt them from alien registration requirement and consular fees;
- (c) To exempt the members of the Study Team from taxes, duties and any other charges on equipment, machinery and other materials brought into and out of the country for the execution of the Study in accordance with existing regulation and laws;
- (d) To exempt the members of the Study Team from income tax and charges of any other kind imposed on or in connection with any emoluments or allowances paid to the members of the Study Team for their services in connection with the implementation of the Study in accordance with existing regulation and laws;
- (e) To facilitate the necessary facilities to the Study Team for remittance as well as utilization of the funds introduced in the country from Japan in connection with the implementation of the Study;
- (f) To secure permission or entry into all the areas required for the conduct of the Study;
- (g) To secure permission for the Study Team to take all data, documents and necessary materials related to the Study out of the country to Japan;
- (h) To provide medical services as needed. Its expenses will be chargeable to the member of the Study Team.

The Government of Vietnam shall bear claims, if any arises against member (s) of the Study Team resulting from, occurring in the course of or otherwise connected with the discharge of their duties in the implementation of the Study, except when such claims arise from gross negligence or willful misconduct on the part of the member of

the Study Team.

The Implementing Agency shall act as counterpart agency to the Study Team and also as coordinating body in relation with other governmental and non-governmental organizations concerned for the smooth implementation of the Study.

The Government of Vietnam assured that the matters referred in this form will be ensured for smooth conduct of the Development Study by the Study Team.

**Signed:**

**Titled:**

**On behalf of the Government of the Socialist Republic of Vietnam**

**Date:**



**Terms of Reference  
for  
Master Plan  
on  
Agricultural and Rural Development Project  
towards  
Market Oriented Economy  
in  
Ho Chi Minh City**

**1. Background and Justification of the Study**

While the Vietnam agricultural economy has achieved a big development in 1990s through Doi Moi policy, farmers in the suburb of HCMC are facing the underdeveloped market institutions, suffering from the “market-failures” caused by the imperfect market especially of products and credit, and lacking the capability to gather the information regarding the markets of agricultural products, and the shortage of physical agricultural infrastructure.

The agriculture in the suburbs of HCMC has a big development potential through utilizing its advantage being close to the largest market in Vietnam. In the present socio-economic circumstances, however, there are many difficulties for achieving the targets set forth in the HCMC's agricultural development plans in 2000 to 2010.

In order to formulate the strategic and comprehensive agricultural and rural development plan in the suburbs of HCMC with a main emphasis on getting over all agricultural difficulties in the transition period of market-oriented economy, master plan and feasibility study is urgently required.

**2. Justification of Japanese Technical Cooperation**

Japan is known as one of the most advanced countries in the urban agriculture and rural development including the development of irrigated agriculture, agricultural supporting system, farmers' organizations, and marketing system under the free market economy. If the master plan is conducted under the Japanese technical cooperation, these advanced technologies will be introduced to Vietnam through the

### Study.

### 3. Objectives of the Study

**The objectives of the Study consist of the followings:**

- (a) To formulate a strategic and comprehensive agricultural and rural development plan in the suburbs of HCMC with a main emphasis on getting over all agricultural difficulties lain in the transition period of market-oriented economy; and
- (b) To carry out technology transfer to Vietnam counterparts personnel in the course of the Study.

#### 4. Study Area

The Study area covers approximately 84,100 ha extending over three districts in HOCM: Ch Chi, Hoc Moc and Binh Chanh.

## 5. Scope of the Study

## 5.1 General

The scope of the Study will be as follows:

- (a) Master plan study for the three districts of Cu Chi, Hoc Moc and Binh Chanh of Ho Chi Minh City.
- (b) Feasibility study for priority projects, which will be selected in line with the Master Plan.

**The Study will be carried out in the following two phases:**

### Phase-I: Master Plan Study

**Field Work-I:** Data collection, field survey and investigation and formulation of basic development plan.

Home Work-I: Analysis, study and preparation of Master Plan Report.  
(Interim Report)

Phase-II: Feasibility Study

Field Work-II: Supplementary data collection, field survey and investigations mainly for the priority project areas.

Home Work-II: Analysis, study and preparation on Feasibility Report.  
(Draft Final Report)

## **5.2 Detailed Scope of the Study**

Phase-I: Master Plan Study

Field Work-I

(a) Data collection and review on:

- (a) existing project studies on the Study Areas,
- (ii) natural resources including topography, meteorology, hydrology, hydrogeology, salinity and soils,
- (iii) socio-economy including population and number of households, social structure, income, living standards, national and regional development plans, national and regional economy and organizational structure of regional government,
- (iv) agriculture including land use, cropped area, cropping pattern, crop varieties, unit yields, farming practices and land holding system,
- (v) agro-economy including prices of products, prices of farm inputs, marketing system, and farm economy,
- (vi) state farms, farms and farmers organizations, and agricultural supporting system including farm management system, water management system, agricultural cooperative, agricultural research, agricultural credit system, extension and other

supporting services,

- (vii) irrigation and drainage including inventory list for existing irrigation and drainage facilities, design criteria, information of O&M and water management,
- (viii) rural infrastructure including village road, farm road, domestic water supply system, post-harvest and storage facilities, and
- (ix) environment including ecosystem, flood control, soil erosion, water quality, and historical and cultural assets.

(b) Field survey and basic study including:

- (i) review on the existing project studies on the Study Area,
- (ii) socio-economic survey including review of national and regional development plans, survey on social structure of villages, living standard of villagers, women's participation in social activities, and NGOs' activities,
- (iii) agricultural and agro-economic survey including interview survey to farmers for the collection of information on family size, income, monthly expenses, living condition, farming practices and farmers' desire and intention to agricultural and rural development, and survey on present conditions and constraints of the agricultural supporting services,
- (iv) soil and land use survey including reconnaissance and auger boring to confirm the information shown in the existing soil map and field check of present land use using the existing topographic maps,
- (v) geological survey including review of existing geological study, confirmation of existing well location, survey on present well condition and check of water quality,
- (vi) irrigation and drainage survey including survey on present irrigation and drainage networks and on-farm facilities, operation and maintenance condition, activities of water users' organizations, and water charge collection,
- (vii) rural infrastructure survey including survey on present conditions of village roads and farm roads, domestic water supply system, post-harvest and storage facility, agro-processing facility,

- (viii) environmental survey including survey on condition of water pollution, ecosystem, flood control, soil erosion, and confirmation of endangered plant and animal species and historical and cultural assets, and
- (ix) preparation of Progress Report (I), which will describe the experts' activities, the results of field survey and basic consideration for the future study for the formulation of master plan.

### Home-Work-I

- (a) Evaluation of development potentials, needs and clarification of present constraints for the future agricultural development.
- (b) Formulation of development strategies consisting of:
  - (i) agricultural development plan including recommendable land use, recommendable crops and cropping pattern, modernized farming practices, and expected farm income after implementation of the project,
  - (ii) agriculture supporting strengthening plan including establishment of agricultural cooperative, improved marketing system, and strengthening agricultural support system,
  - (iii) rural infrastructure development plan including construction of village road network and farm roads, construction of post-harvest and storage facilities, establishment of agro-processing facilities,
  - (iv) water resources and irrigation development plan including assessment of water potential and water balance study, rehabilitation program of existing irrigation and drainage system, on-farm development, and effective water management and O&M system,
  - (v) environmental conservation plan including flood control, soil conservation, mitigation of water pollution,
  - (vi) estimate of project implementation cost,
  - (vii) project evaluation from technical and economical viewpoints and selection of priority projects,

- (viii) preparation of overall development program, and
- (ix) selection of priority projects in line with overall development program.

- (c) Preparation of Master Plan Report (Interim Report) which will describe the study results and recommended development plan of the project.

## **Phase-II: Feasibility Study**

### **Field Work-II**

- (a) Supplemental data collection, if any.
- (b) Field survey and basic study including:
  - (i) soil and land use survey using the aerial photo and topographic map,
  - (ii) agricultural and agro-economic survey for the following items:
    - crop, crop variety, cropping pattern and livestock,
    - crop production and seed marketing system,
    - trend of demand and supply of agricultural products,
    - farming practice and mechanization,
    - labor balance on farming practices,
    - profitability and marketability of crops and livestock,
    - agro-processing and post-harvest,
    - marketing, transportation and storing, and
    - institutional constraints to the project development
  - (iii) survey on agricultural support system for the following items:
    - agricultural support system to introduce new crops and cultivation methods including demonstration or pilot farm,
    - research station, extension and credit,
    - present activities and financial situation of organizations and institutions for the agricultural support system, and
    - constraints to the agricultural development.



- (iv) survey on rural infrastructure particularly village road network and farm roads, post-harvest and storage facilities, and agro-processing facilities,
- (v) topographic survey along major irrigation and drainage canals and at several on-farm development areas selected for typical design,
- (vi) construction material survey,
- (vii) cost survey for construction materials, construction equipment and laborers, and
- (viii) experts activities, the results of field survey and basic consideration for the future study for the formulation of the feasibility study.

## Home Work-II

- (a) Formulation of development plan consisting of:
  - (i) agricultural development plan including recommendable land use, recommendable crops and cropping pattern, modernized farming practices, and expected farm income after implementation of the project,
  - (ii) agriculture supporting strengthening plan including establishment of agricultural cooperatives, improved marketing system, and strengthening agricultural support system,
  - (iii) rural infrastructure development plan including construction of village road network and farm roads, construction of post-harvest and storage facilities, establishment of agro-processing facilities,
  - (iv) irrigation development plan including the calculation of water requirement and drainage module, preliminary design for rehabilitation of existing irrigation system and new drainage system, typical design for on-farm development works selecting several areas, and effective water management and O&M system,
  - (v) preparation of project implementation program,
  - (vi) estimate of project cost including investment cost and O&M

- cost, and,
- (vii) project evaluation from technical and economical viewpoints.

- (b) Preparation of Feasibility Report which will describe the study results and recommended development plan and justification of the project.

### **5.3 Transfer of Technology**

Throughout the course of the Study, transfer of technology and training will be provided to counterpart experts by foreign experts. The transfer of technology will be carried out in the form of on-the job training during the course of the Study. In addition to the above transfer of technology, overseas training will also be programmed preferably in Japan.

## **6. Schedule of the Study**

The period required for the Study is estimated at 12 months in total for two phases, of which respective periods are as follows (Figure-1):

Phase- I:

Phase-II:

For the Study, the following experts will be required:

- Team Leader
- Agronomist
- Agro-economist
- Institutional Expert
- Marketing Expert
- Marketing Facility Expert
- Land use/Soil Expert
- Irrigation/Drainage Planning Engineer
- Design/Cost Estimate Engineer
- Project Evaluation Expert

The required manpower input is estimated at 85 man-months in total.

## **7. Reports**

JICA shall prepare and submit the following reports in English to the Government of Vietnam. Timing of submission for each report might be changed according to the Study Schedule.

**(1) Inception Report**

Thirty (30) copies at the commencement of the Study.

**(2) Progress Report No.1**

Thirty (30) copies at the end of the Phase-I field study in Vietnam.

**(3) Interim Report**

Thirty (30) copies at the commencement of the Phase-II field study in Vietnam.

**(4) Progress Report No.2**

Thirty (30) copies at the end of the Phase-II field study in Vietnam.

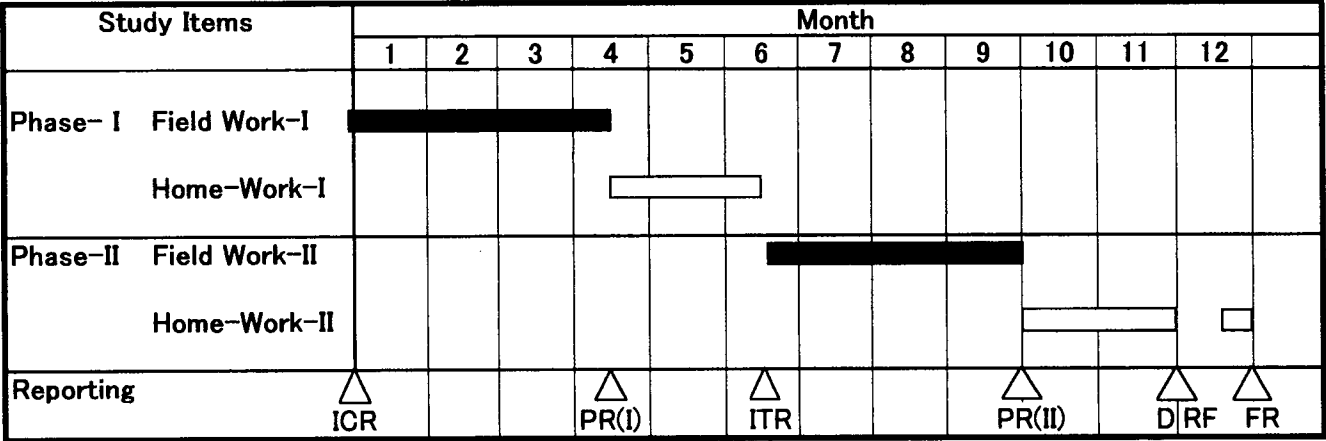
**(5) Draft Final Report**

Thirty (30) copies after the Phase-II home office work. Government of Vietnam provide JICA with its comments on the Draft Final Report within one (1) month after receipt of the Draft Final Report

**(6) Final Report**

Sixty (60) copies within two (2) months after receipt of the Government Vietnam comments on the Draft Final Report.

Figure-I      Tentative Work Schedule



Note:      ■ : Work in Vietnam  
            □ : Work in Japan

ICR : Inception Report  
PR(I) : Progress Report(I)  
ITR : Interim Report  
PR(II): Progress Report(II)  
DRF : Dreaft Final Report  
FR : Final Report

## 添付資料

1. 調査団調査行程表
2. 面談者リスト
3. 調査団長略歴

添付資料1 調査団調査行程表

日 時	調査内容	宿泊地
11月30日	成田・ハノイ	ハノイ
12月 1日	大使館、JICA, MARD 等訪問	ハノイ
12月 2日	資料収集	ハノイ
12月 3日	ハノイ・ホーチミン移動	ホーチミン
12月 4日	HCMC DARD 及び SIWR	ホーチミン
12月 5日	Cu Chi 及び Hoc Moc 県調査	ホーチミン
12月 6日	Binh Chanh 県調査	ホーチミン
12月 7日	Nha Be 及び Binh Chanh 県調査	ホーチミン
12月 8日	DARD 及び SIWR と協議	ホーチミン
12月 9日	ホーチミン・ハノイ移動	ハノイ
12月10日	休日	ハノイ
12月11日	大使館、JICA, MARD に報告等	ハノイ
12月12日	帰国	

### 添付資料3 調査団長略歴

氏名： 山 崎 隆 可

所属： 日本工営株式会社 特別顧問

#### 略歴：

昭和 33 年	北海道大学農学部卒業
昭和 33 年	農林水産省入省
昭和 58 年	日本工営入社
平成 10 年・現在	同社特別顧問

#### 海外業務歴

カンボジア、タイ、フィリッピン、インドネシア、スリランカ、インド、  
ブータン、モンゴル、エクアドル、ボリビア、ケニヤ、タンザニア、  
ヨルダン、ベトナム等