

Ⅳ-4-2 開発構想

(1) 提 言

- ① ガンバハ県が考えている農村総合開発のかんがい排水計画の内容は、頭首工の修復・改善を中心としたかんがいについてである。前述の問題点の項で触れた通り、長期的展望を踏まえ、水源から受益地、末端排水路までを系統立った水管理・施設管理を考慮した総合的な計画、すなわち、かんがい排水システムの構築を行っておく。それに基づき、社会経済状況に応じて段階的な課題解決を着実に図っていく方法を採る必要がある。

これは、一度施設（ハード）を建設してしまうとなかなか変更がされにくく、ソフト面（管理・水使用）で無理を強いられることになるからである。

逆に、ソフトに合わせてハードに余裕を持たせるかとなると無意味で経済性のない扱いにくいものを作ることになるわけで、計画、実施に当たっては、この兼合いの判断が必要となるのである。この意味からも特に問題点①と③の検討に当たっては慎重に行ってもらいたい。

- ② 施設の修復・改善を行う際には当然のことであるが、かんがい施設の総点検の必要性についてである。既存の施設は表面上、機能回復のためにゲートを修理すれば足りるように思われる。しかし、用いられる諸条件は、当然異なるものとなる訳で、例えばゲート補修によって、全断面に水圧が作用している状態で洪水が発生するという条件設定が必要である。洪水発生回数が少なければ操作管理で対応出来るが、降雨が多く、操作は1本スピンドルの人力巻上げで行うため、何門もは時間的に無理である。さらには、上流は満水状態、下流水位は河床付近となる条件下においても既頭首工の（構造図は不明の場合が多い）基礎及び取付部が心配である。事実本体の延長は短い。しかも下流側の底部が洗掘されている。……ぜひ全施設について現在の技術水準で点検して、場合によっては対策を構じなければならない。

- ③ 用水路については、頭首工及び取水工でせつかく必要な流量、水位が確保されても水路内で損失の増大、通水疎害等が生じており、維持管理に必要な機械、例えばバックホウ、クラムシェル等を常備し、かんがい前に水路を掘削、整形しておくことは重要である。

また、この機械は、頭首工、取水工付近に堆積する土砂の除去にも有用となる。

水路を土水路からアスファルト・コンクリートによるライニング、フルーム、二次製品又はブロック積等を用いた形式に変えた場合は、維持管理も容易で水理的にも有利となるので検討に値する。

- ④ 排水不良地域の対策については、その範囲と原因を追求し、問題点⑥の記述のと

おりの手順で検討する必要があるが、もし河川からの逆流が主因であれば堤防を築造する案も比較してもらいたい。また、かんがいのためのセキ上げ水位を下げて対処しようとする場合は、下げることによって、かんがい用水が不足する地域をよく調査し、他の用水系統からかんがいの可能性がないかを基本として検討する。これは、すぐポンプで対応しようと考えがちであるが、現地の受益者意識を考慮する時、またガソリンの価格（電力の供給はさらに困難）、ポンプ機器の運搬等から総合判断した場合効果的とは思えないからである。

それよりも排水不良地域の対策（堤防又は水路の設置、養魚場等への利用等）か、かんがい用水不足地域の対策（用水系統の変更、畑作への転換等）を優先的に検討する必要がある。

- ⑤ 天水田及び畑地へのかんがい方法は、アタナガル川を水源として、分水位置を見ながら可能な限り取り込む方向で検討を行う必要がある。

また、マハ川及びケラニ河からの取水・導水の可能性についての検討も考慮する必要があるが、これは、ガンバハ県全体の河川を中心とするかんがい排水システムの構築の際組み込むものとする。

しかし、やむを得ない場合は、タンクの設置、地下水利用からの検討を行う。

- ⑥ 管理組織及び体制の整備は一挙には期待出来ないが、現在の農業組織を活用すること等によって、操作管理者の技術向上を図りながら順次適切な方策を講じないと、水不足の状況と施設の修復が繰り返されることとなる。そうならないように県の担当者とよく協議を行う必要がある。

(2) 開発事業構想

問題点及び提言は、将来を見た全体的な内容で分析したが、当面の課題解決という観点から考えられるかんがい排水の開発事業構想を記述すると、次のような点が考えられる。

- ① アタナガル川の既存の主頭首工の機能回復及び付加を図るためゲート、巻上機を中心に修復、場合によっては改修

また、主頭首工と同じ程度の機能低下によって影響を与えている副頭首工の修復、場合によっては改修

- ② 天水田の解消の可能性がある地点に頭首工の新設
③ 以上の事項に伴う接続水路の改修又は新設
④ 水路延長の増大
⑤ 排水不良地域の処理対策の実施

V 調査に際しての留意事項

V-1 概括的留意事項

ガンパハ県のIRD Pの作成に当っては、概括的には次の点に留意すべきものと思われる。

- ① ガンパハ県の地理的、社会経済的条件を吟味して、農村住民の所得・生活水準の向上につながるよう、総合開発計画に含まれる事業の内容、優先順位につき十分検討する。
- ② 計画は実現可能なよう総事業費・整備水準及び実施スケジュールを定める。
- ③ 計画に含まれる生産基盤・生活環境の各事業については、相乗効果を上げるよう実施スケジュール及び対象地域を定める。
- ④ 今回の調査の結果からは、ガンパハ県のIRD Pはかんがい施設の維持改修を中心に農業を核とした地域開発計画とし、あわせてガンパハ県の首都圏への近接性、失業率の多さ、教育水準の高さを考慮して、教育職業訓練施設、道路・上水・電気等の整備が重要と考えられるが、更に本格調査においてこれらにつき検討を進める必要がある。

V-2 農 業

1. 農業所得の向上を図るための適切な営農類型及び農地の利用に関する総合的な考察
ガンパハ県のように開発可能地がほとんどなくかつ零細な農家が多い地域において農業所得の向上を図るためには、地域の資源（人、技術、農地等）を活用して農地の高度利用を確立し、限られた農地からできるだけ多くの生産価値を産み出すことが重要である。従って、地域の農業に関する条件；立地条件、社会的条件、経済的条件等に即した合理的な作目の組み合わせやそれを実現するための土地利用について総合的に考察する必要がある。

2. 普及機関、農民教育機関、試験研究機関の連携強化及び内容の充実へ向けての方向付け

農業所得の向上を図るためには、生産量の増加と品質の向上（販売価格の向上）が必要であることは言うまでもないことである。従って、広い視点から農産物の生産性や品質の向上を阻害している要因を摘出して、それに対する対応策を検討し、これを踏まえて地域の実情に即した農業技術を確立して、それを効率的に普及して行くことが重要である。このためには、普及機関、農民教育機関との連携強化を図るとともに、普及活動や農民教育活動の一層の充実・強化を図ることが必要である。

3. 立地条件を活かした農業確立に向けての方向付け

ガンパハ県は、首都コロンボに隣接しているうえ、沿岸部に自由貿易地域という人

口稠密地帯を擁しており、これらの地域を対象とした付加価値の高い農業を展開できる素地は十分あるものと考えられる。従って、このような立地条件を活かせる農業の確立を図る必要がある。

4. より広範囲、かつ、詳細な調査の実施

例えば、農村の社会構造、土地所有制度と相続、農業金融制度、農産物の流通、農業に関する制度・組織、作物ごとの栽培技術及び栽培体系等について調査を行う必要がある。

本格調査の実施に当たっては、以上の4点に留意しつつ現地のニーズに即したものとなるよう十分配慮する必要がある。

V-3 地形図について

1) 地形図について

(1) ガンパハ県をカバーする既存の地形図は、英国の植民地時代に作成された1インチ：1マイル(63,360分の1)のものが最大縮尺のものである。縮尺が小さく、また作成年月が古いので、これだけではマスタープラン調査には不十分であると考えられるが、測量局には1981年撮影の50,000分の1の航空写真があり、これが県全域をカバーしているので、この写真を拡大(10,000分の1まで可能)して使用し、重要なポイントは地上での実測による補足や確認を行なうことになる。

(2) 測量等に用いる基準点については、地図上(1インチ：1マイルの地形図)で位置と標高値を確認するとともに、1981年建設されたTAMMITA頭首工での基準点を現地確認した。地区内の水準点及び他の基準点との関係を点検して使用する必要がある。

また、最近の地形図が作成されていないこと、写真図を利用すること等から、特に現地との整合を必要とする。このため、調査区域の主要なポイントにB.M.を設置しておくことが望ましい。

V-4 水文気象データについて

アタナガル川の河川流量、水位等河川状況に関するデータの集積及び解析が確認できず、一部に流量観測データ(Karasnagala:アタナガル川上流)の存在を確認できたのみである。流域の特性(地形、植生、降雨分布等)からみて、降雨流出が一時に生ずるものと推測される。取水地点、取水位と配水地域の標高との再点検が必要と思われることから、マハ川及びケラニ河等の河川データ等を用いて、その相関において、使用せざるを得ない状況にある。

しかし、アタナガル川のデータ追求とこん跡調査、地元関係者からの聞き取り等を行って、必ず使用データとの点検を行って対処する必要がある。

よって、アタナガル川の河川データの確認のため調査時に水位計等を新規に設置し、観測を開始させることも必要と思われる。

V-5 その他

既存のかんがい排水施設、特に頭首工は建設年も古く構造図はもちろん設計条件等も存在していない。これらについては、代表例のみで確認したに過ぎないので、河川流況の安定、改修計画との関連、地質調査、設計条件の整備が重要である。

さらには、この国の特徴である河川及び水路等の流水を生活用水としていること等を踏まえ、環境調査も行っておく必要がある。

付 属 資 料

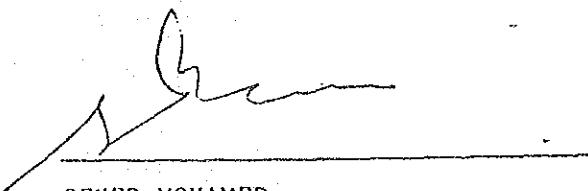
1. SCOPE OF WORK
2. 議 事 録
3. プロジェクト説明文書
4. 収集資料リスト

1. SCOPE OF WORK

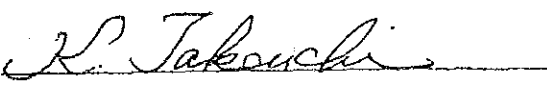
SCOPE OF WORK
FOR
THE MASTER PLAN STUDY
ON
THE INTEGRATED RURAL DEVELOPMENT PROJECT
FOR
GAMPAHA DISTRICT
IN
THE DEMOCRATIC SOCIALIST REPUBLIC OF SRI LANKA

AGREED UPON BETWEEN
THE MINISTRY OF PLAN IMPLEMENTATION
AND
THE JAPAN INTERNATIONAL COOPERATION AGENCY

Signed at Colombo, this 10th day
of April 1986.



SEYED MOHAMED
LEBBE MARIKAR
SECRETARY,
MINISTRY OF PLAN
IMPLEMENTATION



KANEZO TAKEUCHI
LEADER OF THE PRELIMINARY
SURVEY TEAM
THE JAPAN INTERNATIONAL
COOPERATION AGENCY.

I. INTRODUCTION

In response to the request of the Government of the Democratic Socialist Republic of Sri Lanka, the Government of Japan has decided to conduct the Master Plan Study on the Integrated Rural Development Project for Gampaha District (hereinafter referred to as "the Study") in the Democratic Socialist Republic of Sri Lanka, in accordance with the relevant laws and regulations in force in Japan.

The Japan International Cooperation Agency (hereinafter referred to as "JICA"), the official agency responsible for the implementation of technical cooperation programs of the Government of Japan, will undertake the Study, in close cooperation with the authorities of the Government of Sri Lanka.

The present document sets forth the Scope of Work for the Study.

II. OBJECTIVE

The objective of the Study is to formulate a rural development plan for Gampaha District with the aim of achieving harmonious socio-economic and physical development in the rural areas of the district.

III. OUTLINE OF THE STUDY

1. Study Area

Gampaha District adjoins Colombo District in the north and has an area of about 1,400 Km. The Study covers the rural area of the District.

2. Scope of the Study

1) The scope of the study includes:

(1) to formulate an integrated rural development plan in the study area with the social and economic aspect, and

(2) to identify priority project(s) from the above plan.

2) Major items to be conducted in the study to formulate the integrated rural development plan will be as follows:

(Phase I study)

(1) Collection and review of relevant information and survey on the followings.

A. Natural condition

- a. Topography
- b. Meteorology
- c. Hydrology
- d. Geology
- e. Soil

B. Social Condition

- a. Population and habitation
- b. Social organization
- c. Rural economy

C. Social Infrastructure

- a. Roads
- b. Water supply
- c. Health
- d. Education and training
- e. Electricity
- f. Communication

D. Agriculture

- a. Farming
- b. Land use
- c. Land holding
- d. Cropping
- e. Farm machinery

E. Agricultural infrastructure

- a. Irrigation and drainage system
- b. Farm roads
- c. Storage facilities

F. Agro-economy

- a. Marketing system
- b. Farmer's income and productivity
- c. Agricultural credit
- d. Agricultural organization
- e. Extension services
- f. Agro-industry
- g. Inland-fisheries

- (2) Identification of existing constraints in rural development.
 - (3) Identification of and evaluation of the development potentials of land and water resources, social infrastructure and manpower resources
 - (4) Setting up of development objectives
 - (5) Formulation of the integrated rural development plan
 - (6) Making preliminary estimates of costs and benefits
 - (7) Examination of the priority among the projects and sectors, and to identify priority project(s).
(hereinafter referred to as the Priority Project(s))
- 3) Major items to be studied further for the Priority Project(s) will be as follows: (Phase II study)
- (1) Supplementary Data collection and necessary field survey concerning the Priority Project(s)
 - (2) Estimation of expected beneficial area and/or population
 - (3) Planning and preliminary design of the Priority Project(s)
 - (4) Environmental assessment of the Proposed Project(s)

IV. STUDY SCHEDULE

The study will consist of field work in Sri Lanka and home, office work in Japan, and will be conducted in accordance with the attached tentative work schedule.

V. REPORTS

JICA shall prepare and submit the following reports in English to the Government of Sri Lanka.

(1) Inception Report

Twenty (20) copies at the commencement of Phase I field work.

(2) Progress Report

Twenty (20) copies at the end of Phase I field work.

(3) Interim Report

Twenty (20) copies at the end of Phase II field work.

(4) Draft Final Report

Twenty (20) copies within one (1) month after the end of Phase II home office work.

The Government of Sri Lanka is requested to provide its comments on the Draft Final Report within one (1) month after its receiving.

(5) Final Report

Forty (40) copies within two (2) months after receiving the comments on the Draft Final Report.

VI. UNDERTAKINGS OF THE GOVERNMENT OF SRI LANKA

1) To facilitate smooth conduct of the Study, the Government of Sri Lanka shall take necessary measures;

(1) To secure the safety of the Japanese study team

(2) To permit the members of the Japanese study team to enter, leave and sojourn in Sri Lanka for the duration of their assignment therein, and exempt them from alien registration requirements and consular fees,

(3) To exempt the members of the Japanese study team from taxes, duties, fees and other charges on equipment, machinery and other materials brought into Sri Lanka for the conduct of the study.

(4) To exempt the members of the Japanese study team from income tax and charges of any kind imposed on or in connection with any emoluments or allowances paid to the members of the Japanese study team for their services in connection with the implementation of the Study.

- (5) To provide the necessary facilities to the Japanese study team for the remittance as well as utilization of funds introduced into Sri Lanka from Japan in connection with the implementation of the Study,
 - (6) To secure permission for entry into private properties or restricted area for the conduct of the Study,
 - (7) To secure permission to take all data and documents related to the Study including photographs out of Sri Lanka to Japan by the Japanese study team, and
 - (8) To provide medical services as needed. Its expense will be chargeable on the members of the Japanese study team.
- 2) The Government of Sri Lanka shall bear claims, if any arises, against the members of the Japanese 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 wilful misconduct on the part of the members of the Japanese study team.
- 3) The Ministry of Plan Implementation (hereinafter referred to as MPI) shall act as counterpart agency to the Japanese study team and also as coordinating body to other relevant organization for the smooth implementation of the Study.

4) MPI, at its own expense, provides the Study Team with the following in cooperation with other agencies concerned:

- (1) Available data and information related to the Study.
- (2) Counterpart personnel to participate in the various activities for the Study.
- (3) Suitable office space with necessary equipment in Colombo and the study area.
- (4) Credentials or identification cards to the members of the Study Team.
- (5) Appropriate number of vehicles with drivers.

VII. UNDERTAKINGS OF JICA

For the implementation of the Study, the JICA will take the following measures:

1. To send, at its own expense, the Study Team to the Democratic Socialist Republic of Sri Lanka in accordance with the tentative work schedule, and
2. To pursue technology transfer to Sri Lanka counterpart personnel in the course of the Study.

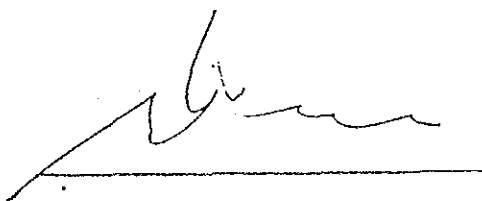
VIII. JICA and MPI will consult with each other in respect of any matter that is not agreed upon in this document and may arise from or in connection with the Study.

2. 議 事 錄

A MINUTE OF UNDERSTANDING regarding undertakings of the Government of Sri Lanka specified in the Scope of Work for the Master Plan Study on Integrated Rural Development for the Gampaha district dated 10th April 1986.

- (1) The Japanese Team and the Sri Lankan representatives discussed the content of the Draft Scope of Work presented by the Japanese Team on 8th April 1986. Both parties agreed on the Draft subject to the following.
- (i) Regarding paragraph (vi - 1) item (7), the Sri Lankan side would make every effort to obtain permission for the Japanese Study Team to take all data, documents including photographs relating to the study, out of Sri Lanka to Japan.
- (ii) Regarding paragraph (vi - 4) items (2), (3) & (5), the Sri Lankan side will make every effort to provide counter part personnel, office space and vehicles with drivers to the Japanese Study Team on a mutually agreed basis.
- (2) Sri Lankan delegation requested and the Japanese Team agreed to include in the Scope of Work under item F-Agro-Economy, a sub item (g) Inland Fisheries.

Signed at Colombo this 10th
day of April 1986.



SEYED MOHAMED LEBBE MARIKAR

SECRETARY,
MINISTRY OF PLAN
IMPLEMENTATION.



KENEZO TAKEUCHI

LEADER OF THE PRELIMINARY
SURVEY TEAM
THE JAPAN INTERNATIONAL
COOPERATION AGENCY.

3. プロジェクト説明文書

AN INTRODUCTION TO PROJECT PROPOSALS
IDENTIFIED FOR AN I R D P
IN GAMPAHA DISTRICT.

Project Title : Integrated Rural Development Project
for Gampaha District.

Prepared by : District Planning Unit,
Kachcheri,
Gampaha.

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An Introduction to Project Proposals identified
for An IRDP in Gampaha District

General;

The Island of Sri Lanka is situated within the tropics and has a total extent of 65610 sq.k.m. This is divided into 25 administrative districts, of which, Gampaha District with an area of 1399 sq/k.m., is the 21st in size, but the second largest in population. According to the 1981 Census, it had a population of 1.39 million and a density of 1007 persons per sq/k.m. Compared to the national average this figure is very high. The main reason for this high density of population is its location in close proximity to the Colombo District which contains the national capital.

Topographically the country can easily be divided into two major parts—the Central Hill Country with an elevation of over 1000 feet above sea level and the surrounding lowlands which gradually slope towards the sea. The Gampaha District falls entirely within the low country and occupies the south-western plain. Its topography can be described as generally flat, except for a few hillocks such as Walbotale Kanda, Kudumbikanda and Yatawaka Mukalana which rise to height of about 500 feet above sea level.

The Gampaha District falls entirely within the Wet Zone which receives an annual rainfall of about 2500mm., mostly from the South Western Monsoons. The eastern parts of the District which adjoin the Hill Country receive a slightly higher rainfall. Although the demarcation of the District has been done mainly on administrative grounds, it has clear natural boundaries. The Kelani Ganga and the sea form the southern and western boundaries respectively. The Central Hill Country is the eastern boundary of the District and the Maha-oya runs along its northern margin.

The Gampaha District contains 13 of the country's 161 parliamentary constituencies. The M.P's of the Gampaha District represents approximately 1/12th of the country's population. The electorates in the district coincide with the divisional level administrative units which are Assistant Government Agents' divisions.

Each division has an Assistant Government Agent coordinating its administration, development and welfare services. An Assistant Government Agent's Division is divided into a number of Grama Sevaka Divisions for the purpose of carrying out the rural administration. The average number of these G.S. divisions in an A.G.A. area ranges between 20 and 40, making a total of 444 for the entire District. An A.G.A.'s Division generally has 3 to 5 villages, the number being greater in rural areas than in urban areas.

Regional development activities carried out under the District Budget, District Development Council and other Development Programmes are administered through these AGA divisions under the overall direction of the District Minister and his Secretary who is the Government Agent of the District.

Negumbo, Gampaha and Ja-ela are the main towns in the District and they have a high concentration of population. However, Negumbo is the only city that has been raised to the status of a Municipal Council. The general distribution of the population shows a heavy concentration along the coastal belt and in the two Free Trade Zone areas of Katunayake and Biyagama. The Katunayake Free Trade Zone occupies the area around the International Airport and spreads through parts at Katana, Negombo, Minuwangoda and Ja-ela electorates. The recently created Biyagama Free Trade Zone covers a major portion of the Biyagama electorate.

When compared to the population distribution in the Colombo District where the urban population is as high as 78%, the Gampaha District has an urban population of only 27.8%. This low proportion of urban population is in spite of the fact that no part of the Gampaha District is more than 30 miles distant from the city of Colombo. The proportion of rural population in the Gampaha District does not deviate from the national figure of 72.2%. This high proportion of rural population is a general reflection of the lack of modern development in the District.

The need for Integrated Rural Development in the Gampaha District:

Although the Gampaha District is situated in close proximity to the Colombo District, there is a clear difference in the income levels and the standards of living of the people in these two Districts. Except for some semi urban areas along the main roads and towns, including the Free-Trade Zone suburbs, the district is predominantly rural in character. The two Free Trade Zone areas of Katunayake and Biyagama cater not only to the people of the Gampaha District but equally to those migrating from outside Districts.

Therefore, the contribution made by the Free Trade Zones raising of the income levels and the standard of living of the people of the Gampaha District is very much limited. The concentration of a large population of youths in these factories creates further problems. This calls for immediate action to provide improved transport, housing, sanitation and recreational facilities in the District, especially in the Free Trade Zone areas.

73% of the total land area of the Gampaha District is devoted to agriculture. Of this, coconut plantations cover 51% and paddy lands, 19%. The remaining area is used for the cultivation of rubber and other highland crops. The coconut yield in the Gampaha District is half that of a normal healthy plantation due to unsatisfactory maintenance. The paddy yield of the District during 1984/85 was 62.7 bushels per acre in Maha, 51.2 in Yala. The main problem faced by paddy cultivation is flooding during Maha and the prevalence of drought conditions during Yala. The acreage brought under cultivation during Yala is therefore very much lower than in Maha. In the Divulapitiya Electorate which has the largest acreage under paddy, 97.5% of the land is cultivated in Maha, while only 49% is cultivated in Yala. 7000 acres of asweddumized lands in the District are left uncultivated due to these lands being water-logged. Yet another 5000 acres in the Muthurajawela area lie abandoned due to poor drainage and salinity.

Paddy cultivation in the District is carried on mostly according to traditional practices and therefore there is plenty of room for improvements provided technological advances are made use of and farmers are ready to give up traditional practices.

A change agent programme introduced through the help of outside voluntary corps might help in bringing about these changes.

Although there is a fairly developed network of major roads in the District, most rural roads are poorly maintained due to insufficiency of funds. This poor state of roads affects the smooth transportation of agricultural and other products. The electricity supply network has developed along the main roads and towns. But the distribution lines to villages, specially in rural areas, need urgent attention. This need is very clearly seen when we consider the fact that in many electorates the MPP's are compelled to devote a major portion of their district budget allocation for the erection of rural electricity lines, thus preventing the use of these funds for the projects for which they are really meant.

Shallow wells are the main source of water in the Gampaha District and only a few towns enjoy a pipe-borne water supply. In the densely populated areas, pollution of well water due to various factors has created several problems. Therefore a scheme of improving the quality of the drinking water will be of help in raising the health standards of the people.

The standard of living of the people is comparatively low in most of the electorates. The electorates of Dompe, Mahara, Attanagalla, Divulapitiya, Minuwangoda, Mirigama, Katana and Negombo have over 50% of the population living below the poverty line. In electorates like Divulapitiya and Mirigama this rate rises to over 70%. The coastal electorate of Negombo which is fairly urbanized has a high poverty rate of 65%. There is a high concentration of fisher folk in this town and most of them live at the subsistence level. Although fishing is the major occupation of the people here, the industry has not developed sufficiently to bring an adequate income to those engaged in it.

26.9% of those of employable age are unemployed. 79% of those unemployed have had a fair education; that is, they have studied up to G.C.E.(O.L.), although they may not have obtained 6 passes at that Examination. Unemployment is especially acute in the rural electorates where poverty is widespread. This shows the urgent need for initiating technical and vocational education in the District.

Though higher education facilities are generally available, the secondary and higher education institutes in the District do not succeed in holding the entire student population within the District, mainly because of the fact that the popular and prestigious institutions in Colombo are in close proximity. There is an annual outflow of 8000 students due to the lack of satisfactory facilities, which compel parents to send their children to Colombo schools. Therefore the urgent need for making available at least some schools with sufficient facilities to retain such students within the District cannot be over-emphasized. The daily outflow of a large number of students creates problems of transport not only in the Gampaha District, but also in Colombo. Further the cost involved is an ultimate loss to the nation.

An integrated development programmeⁱⁿ the District has, in the main, to re-organize its productive sector by introducing better technology and extension services on the one hand, while on the other, it has to reinforce the physical and social infrastructure with a view to uplifting the standard of living of its population.

The following sections will identify specific development areas also make detailed proposals in respect of them.

A. Agriculture

- i. Paddy and other field crops.
- ii. Coconut and mixed crops.
- iii. Minor export crops.
- iv. Home garden crops.

B. Animal Production and Fisheries

- i. Animal Production
- ii. Fisheries.

C. Water Resources

- i. Major Irrigation
- ii. Minor Irrigation
- iii. Rural and Urban Water Supply.

D. Productive Infrastructure

- i. Highways
- ii. Rural Roads
- iii. Rural Electrification and Telecommunication

E. Social Infrastructure

- i. Health
- ii. Education
- iii. Sports and Recreation.

F. Administrative Infrastructure

- i. Secretariate and techniques
- ii. Project office and equipment
- iii. Training.

3.1 Agriculture:

In a development plan for Gampaha District, promotion of agricultural sector has to be given priority. The urban and industrial development plans in the Western part of the district mainly in Free Trade Zone area and suburbs of Colombo District, no doubt has a significant impact in the economic output and employment. But this development does not seem to bring about the expected " Spread Effects" to the major part that forms the "hinterland" of the District. This "hinterland" is the eastern part consisting of the agricultural and rural electorates of Divulapitiya, Mirigama, Dompe, Katana, Minuwangoda, Attanagalle and Gampaha. This section occupies 75% and 74% of the land under the two main crops of the District, coconut and paddy respectively. Further 75% of the total land area of the District belongs to these rural electorates. Therefore, unless balanced and speedy development in the *agricultural* sector is brought about. There will be increased disparity in economic standards of the two sectors of the District. Further, the undeveloped status of agriculture results in migration of the population in search of employment towards the western part and Colombo District. This not only results in creating further problems but also leaves the agricultural sector in the same undeveloped status continuously. In this context agriculture need to be transformed into an economic activity which is attractive both in terms of income and occupation, capable of competing in equal terms with urban wage earning activities. Scope for developing the agricultural sector can be identified under the following.

- A. Increasing the rice yield through and intensive extension programme with effective training facilities.
- b. Increasing the coconut yield through systematic maintenance and fertilizer schemes.
- c. Introduction and encouragement of inter cropping and mixed farming in coconut lands.
- d. Promotion of the minor export crops and field crops i.e. Pineapple, Bananas, Rabutan, Passion Fruits, Ginger, Pepper, Turmeric, Coffee and Cloves.

- e. An assistance programme for vegetable and home garden crops of smallholding farmers. ie. vegetables betal, yam, fruits, flowers.

The major organizations and agencies handling the activities of Agricultural Sector are the Agricultural Department, Agrarian services Department, Minor Export Crops Department, Coconut Cultivation Board, the Agricultural Development Authority and the Agricultural Insurance Board. Each of these organisations has its Regional head in the district with divisional officers at divisional and village level. Divisional level officers of all these institutions are coordinated at the 26 Agricultural service centres, distributed through out the District. The coordinating officers in these centres are the Agricultural Managers one for each electorate with their head The Deputy Provincial Director. District Level coordination functions at a monthly meeting headed by the Government Agent and participated by all District Level Heads in the field.

3.1.1. Paddy and other field crops?

Extension services for these crops are provided by the Department of Agriculture through the District and Segment Level.

Crops and Extent

(a) Paddy	Maha Season	17, ppp ha
	Yala Season	12,500 ha.
(b) Other field crops:		
	Pineapple	- 2,217 ha
	Banana	- 2,400
	Rambutan	- 105
	Passion Fruits	- 150
	Vegetables	- 750
	Root crops	-
	(Manioc, sweet potatoes and yams)	- 1,200
	Ginger	- 300
	Turmeric	- 250

(These crops are cultivated as inter crops in coconut growing areas).

The objectives of the proposals to have an intensive extension programme, with effective training facilities for the village level extension workers and the farmers, are to step up the present rice yield of 03 metric ton per ha to 04 M/t per ha, within the next five years, together with the expansion of the cultivation of the fruit crops, vegetable crops, and other field crops in the coconut growing areas by 50% . In addition it is envisaged to increase the catch crops cultivated in paddy fields between the two cultivation seasons which would give economic benefits to small scale farmers.

The extension services to the farmers are performed through the "training and visits" system under the agricultural extension and adaptive research project of the department of Agriculture. There are two main District Training Centres located at Walpita and Abeypuysa , which conduct the seasonal training for staff and short training courses for staff of the department and also farmers and representatives of village organisations. There are also three segment training centres at Mahara, Mirigama and Galahitiyawa, where officers training programmes are conducted on a bi-weekly basis . The extension training at these centres are manned by the segment agricultural officers who are assisted by the subject matter officers specialised on rice productions subsidiary food crop, horticultural crops, plant protection, home economic, nutrition, farm machinery and extension methodology.

The main short comings encountered in the proper functioning of extension services are as follows,

- (a). Lack of mobility to field staff
- (b). Insufficient training facilities.
- (c). Lack of equipment for field staff.

Improvements to District Agricultural Training Centres serves the Gampaha District of Agricultural Training needs of the farmers. The main objective of these training centres are to trans-

fer new agricultural technology to farmers and youths of locality through short training courses. In the past these training centres have been conducting four months training courses regularly to school dropouts, farm youths, and members of various agricultural organisations. Annually about 7000 to 8000 man days per centre (of training are being conducted with limit resources available). Type of training courses will depend on the need of the District.

If these training centres are to be improved better quality training could be conducted. Proposals for improvements are to construct in both centres lecture halls dormitory, kitchen and dining hall, workshop, hostel, dairy sheds and equipments, office equipment, field equipment, land development and irrigation and vehicles.

Services provided by the Department of Agrarian Services in the field of agriculture

The Agrarian Services Department covers the entire field of agriculture through Asst. Commissioners in the District who are responsible for carrying out the following functions.

- A. Enforcement of Agrarian Services law.
- B. Supplying of Agricultural Services and inputs to the farmer.
- C. Establishment and control of Agrarian Services Committees.
- D. Co-ordination of Agricultural activities at the village level through the cultivation officers.
- E. Construction and maintenance of minor irrigation,

There are 26 divisional Agrarian Services Centres providing these services. Each centre looked after by a Divisional Officer and the activities are carried out from the grass-root level through 444 cultivation officers.

The Divisional Officers at all institutions in the field of agriculture are housed in a Divisional Agrarian Services Centre. The distribution of Agricultural inputs to farmers takes place at these centres. Especially fertilizer, agro-chemical, seed-paddy, other types of seeds and planting materials are distributed from these centres. Lack of storage facilities, vehicles and equipment has been a hindrance to an efficient service. Provision of following facilities will enhance the better service to the rural farmer.

A. Provision of storage facilities for seed paddy, fertilizer and agro-chemical for twenty agrarian services centres.

B. Provision of twenty five numbers of two wheel tractors with trailers and allied equipments.

C. Provision of motor bicycles under a long term long scheme for divisional officers.

3.1.2. Minor Export Crops:

The department of minor export crops is involved in the promotion of cultivation of perennial crops such as spice crops (cinnamon, pepper, cloves, etc) beverage crops (coffee and cocoa) and other highland crops (papaw, citronella) in the wet and intermediate zones of Sri Lanka. This function is carried out through a well designed cultivation subsidy scheme (which includes both cash subsidies and free planting materials), implemented by District Level extension net work of the department. The specific functions of the department in Gampaha District are ;

A. Administration of MEC subsidies mainly to home-gardens and 'mixed-gardens'.

B. Provisions of planting materials to highland small holdings.

C. Dissemination of technical information to growers through extension education programmes, which include farmer training classes and the establishment of demonstration plots.

The DMEC in Gampaha District, however, is beset with many bottle-necks for the successful implementation of its field programmes. The main constraints are as follows:

- A. Lack of a permanent district office.
- B. Lack of transport facilities, for extensions.
- C. Inadequacy of extension equipment.

In consideration to the above problems of DMEC Gampaha it is proposed that the following capital items are provided.

- A. Office equipment necessary for the District office. (the district office can be housed in the proposed secretariate).
- B. Vehicles for the extension staff and transportation of plant material.
- C. Extension equipment necessary.

If these requirements are provided the proposed MEC targets under the project are as follows;

	1987	1988	1989	1990	1991	Total
MEC-MIXED GARDENS						
Coffee-based(Acs)	300	300	300	300	300	1500
Pepper-based "	200	200	200	200	200	1000
Total(Acs)	500	500	500	500	500	2500

The two 'Models' of mixed gardens (to be introduced in 2500 Acres of Coconut lands) are as follows:

	Coffee-based Model (2 Acs)	Pepper-based Model (2 Acs)
Coffee :	425 plants	Coffee : 150 plants
Pepper :	125 "	Pepper : 600 "
Clove :	50 "	Clove : 50 "
	<u>600</u>	<u>800</u>

At full maturity, say in 1944, the above acreage is expected to yield the following annual production levels:

Expected annual production in 1944	
Coffee :	275,000 lbs.
Pepper :	264,000 "
Clove :	94,000 "

3.1.3. Coconut and mixed crops:

Out of a total agricultural area of 233,500 acres in Gampaha District coconut occupies 70% and this constitutes 1,13,230 blocks of mostly very small lands.

Extent of coconut lands: (Gampaha District)

Category	Percentage of the number of land blocks	Percentage of the total acreage
Below 2 Acres	78.0	31
02 - 05 Acres	16.0	29.7
05 - 10 "	3.9	16.4
10 - 20 "	1.6	14.0
Over 20 "	0.5	8.9

Distribution of coconut - according to age of trees - Gampaha District.

Category	No. of acres	Percentage
0 - 5 years	31920	15.96
6 - 15	36440	18.22
16 - 30	45860	22.93
31 - 45	43140	21.57
46 - 60	34840	17.42
Over 60	77740	3.87

This shows that about 60% of the total coconut plantation is in small blocks, below 5 acres and within the age group of 16 to 45 years.

Coconut cultivation Board has a Regional office in Gampaha District with a Regional Manager as its head. Extension services are conducted under the guidance of two specialized assistant managers. Field Staff consist of 18 coconut development officers and 18 field officers assisting them. There are 5 fertilizer stores and 2 nurseries in the District. The coconut development officers are provided with motor bicycles and there are two lorries in the Regional office, transporting fertilizer and planting material.

Present development activities for the promotion of coconut cultivation include the following.

- i. Subsidy scheme for replanting and underplanting. This is mainly for coconut plants over 60 yrs. of age.
- ii. Subsidy scheme for mixed crops like coffee, pepper and cocoa in coconut lands.
- iii. Subsidy Scheme for new plantations and special assistance for small holdings less than 1 acre in extent.
- iv. Subsidy of 12% loan facility through commercial banks for fertilizers.
- v. Instructions to the planters through the extension service of the coconut cultivation board.

A project assisted by the Asian Development Bank was in operation during the period 1982-1986 and provided the office buildings for the CDB, residential facilities and buildings for fertilizer stores. Further the finance for the subsidy scheme of replanting mixed cropping and rehabilitation was provided under this project and is also provided financial assistance to modernize coconut processing industry in the District.

Proposals for the development of coconut in the District.

1. Promotion of mixed crops in coconut lands specially in small holdings has to be taken up at an urgent necessity. The trend in coconut prices from 1985 onwards does not encourage the growers to invest in fertilizer, and other development works. This results in gradual decrease of their income. Therefore an additional income by way of well planned mixed crops only can stabilize their position; and provide facility and environment necessary to keep the plantation at least in a fair condition.

The major portion of the coconut lands falling within the age group of 60-45 yrs. and covering 44.5% of the total coconut plantation in Gampaha District, is suitable for the mixed crops, pepper, coffee and ginger. It is proposed to set up nucleus farms in selected lands capable in developing as nurseries supplying planting material for the next year to the surrounding parts. The selected farms can set the example in spreading through surrounding coconut land until all coconut lands within the group come under mixed crops. Initially those selected farms have to be provided with financial assistance ^{on a} suitable basis. The number of farms selected in the first year can be around 200 - 300 with a gradual increase in the following years. In addition to this financial aid the present subsidy scheme for mixed crops, also must continue.

The products of small holdings coconut growers change hands among the large number of buyers and sellers acting as intermediate until it reaches the level of semi finished products. This happens because there is no organizations for these small holdings farmers. The District has only 149 copra producing units, 15 oil mills, 28 DC mills. In the copra processing centres traditional and age old methods are still used and the processing in many centres are limited to one item. For example *white* copra is produced husks and shells are again sold to others who again process them as fibre or coconut char coal in isolated places. This process of ~~changing~~ ^{into} several hands and products of low ~~quality~~ ^{or} half finished products, result in bringing very poor income to the growers. Mostly the middle men get much more than actual farmers.

Therefore, it is proposed to organize the small scale farmers in producer societies and setup copra processing centres and coconut shell char coal producing centres with a considerable capacity. In addition to the present 130 units of copra production, 75 more such centres are proposed to be established through the producer society with financial assistance being provided. Modern technology for these products have to be provided by the coconut development authority, coconut research board and the coconut cultivation board.

The societies of the small scale producers have to be coordinated to form larger scale producer society and the latter to maintain modern and large scale processing mills to obtain the economies of scale. Presently there is only one such a large scale society in Gampah District, Dunagaha coconut producing society and it helps its membership to obtain a very good price for their products. Under the project this mill can be modernize with technical and financial assistance, and it is proposed that at least one more such a mill be set up initiating the small scale producer society to one large producer society.

Improvement in the Extension Services:

Considering the large number of 1,13,230 coconut land blocks, the 18 coconut developing officers find it difficult to attend the need of instruction and information expected. Therefore, it is proposed to increase the number of this staff by creating additional 15 posts. Further senior coconut development officers have to be trained and appointed as development agents. This can be done by training and promoting five such officers each year. Improvements of transport facilities to this extension staff also is a requirement identified at the moment.

3.1.4 Home Garden Crops:

Home garden type of self employed farming is a traditional human activity in many parts of the district. These parts include mainly the rural electorates mentioned above. Farming is done in small holdings ranging from half acre to 2 or 3 acres. The crops grown are betel, vegetable, yams, fruits and sometimes flowers in the more urban areas. In addition to these crops they generally cultivate little paddy and coconut. These paddy is mainly for consumption and where coconut is will be in very poor maintained condition.

There is a very close and assured market for vegetable and fruits in the industrial and urban sector and the neighbouring parts of Colombo District. Betel has continuous market and Gampaha District is the main producer through out. Recently it has been even extended to export level through the agencies like Consel expo, Mark fed and the C.W.E.

It is estimated that 60% of the agricultural population in the mentioned electorates are totally or partly engaged in this category of farming and hence it has a significant influence over the rural living standards. Presently there is no agency directly assisting this category of farming, and the possibility of an intensive development programme with irrigation facilities, mixed cropping and developed methods of seedlings and fertilizing, has to be studied carefully. If such programme is introduced this farming can be raised from subsistence level to one of profit earnings. A development plan for these farmers can include the following.

- A. Credit facilities to be provided to the farmers for the installation of a hand operated pump unit with pipe line. Presently the entire process is with hand water by the members of the family and the possibility of extension is there for limited. Help of a pump can easily double or treble the growing extent in holding where land is available. A loan scheme can be implemented through farmers committees under the guidance of the agricultural service centres or the project office.

B. Credit facilities for agricultural equipments and fertilizer on a suitable basis.

C. Extension of the services of agricultural officers trained in the field of intensive type of home gardening agriculture.

It may be that no single pattern of development is applicable to all farmers, depending from the nature of the soil, drainage, other physical conditions. An intensive programme will help in introducing growing mushrooms, bee keeping, poultry and cattle farming at small level. In this context kind cooperation of voluntary organisations like "Japanese - organisations of cooperative volunteers" can be expected in pre-forming the traditional home gardening to one of profitable and interesting ventures.

3.2 Animal Products and Fisheries:

3.2.1. Animal Products:

Animal husbandry plays a significant role in the economic of the lower level of the population. Livestock industry in the coconut growing electorates contain a major share of the dairy industry and cattle herds. In the coastal belt pig farming and poultry are the leading activities.

With the rapid growth of urban population and the expansion of tourist industry and concentration of a wage earning population around Free Trade area there is heavy demand for wide range of food products and therefore the potential for further development of livestock for eggs, meat and milk is high.

Cattle breeding is done by the small scale paddy and coconut farmers, generally breeding an average of one to five cows.

Whilst supplying a wide range of food products livestock industry will make available farm yard manure to help crop yields. Yet another possibility is the generation of bio-gas, which is being experimented by various agencies.

Presently the Asia Development Bank has a development project in the district providing the infrastructure for the animal production industry. It includes a training institution, milk collecting centres and the central markets. Therefore, the necessity left out is a programme of assistance to the individual producers to improve their productions.

The development approach in the sector can be in the form of assisting, through a long scheme to the small scale farmers, and can be implemented through the agricultural authority and the department of animal productions and health. The selected assistance must be for milk cattle breeding, piggery and poultry.

3.2.2. Fisheries:

Basic facilities have been provided by the ministry of Fisheries with the assistance of the Government for the development of the sea water fishing industry. Boat yards, service station, fisheries roads, fisheries community centres, fisheries sales depot, primary cooperative society, fisheries extension service societies etc, have been setup to provide facilities to the fishermen.

As for providing welfare facilities to fishermen fisheries housing scheme have been setup. Wells to provide the water, toilets, beacon lamps etc, have also been provided. However as they are or 5,000 families within the Negombo District Fisheries Extension Division, facilities provided so far have been inadequate. There are at least 1,000 persons who are engaged in the fishing industry.

Number of boats within this district

1. 3 1/2 tons boats (28'-32')	346
2. 17'-23' Fibre glass boats	1763
3. Local boats with outboard Motor engines	136
4. Local boats (Canoes)	1572
5. barges	38
6. Theppam	801

Out of these 3 1/2 ton boats, 17'-23' boats and barges are taken to other parts of the island to be utilised for fishing.

The annual fish production of this district is as follows"

1980		20136 tons
1981		18327 tons
1982		21979 tons
1983	Almost	20750 tons
1984	Almost	22050 tons

Proposals:

01) Fisheries houses

01) Constructions of the remaining 10 houses in the Negombo Mankuli fisheries housing scheme.

- 02) Construction of the 70 houses in the proposed fisheries housing scheme at Siriwardana place, Mannakkorya, Negombo.

Water Supply:

Due to the non-availability of pure drinking water almost 1000 families who reside in the Talahena Peruwa village council are in the Negombo electorate, face severe hardships. Under the water supply scheme of the Negombo Municipality drinking water is supplied only Duwa and Pitipana villages. It would cost Rs.500,000 to improve the water supply scheme.

Fisheries Community Centres:

Construction of a community centre to provide facilities for the fisherman of Pitipana fishing village (fisheries office, free school for children of fishermen, cooperative retail shop and a common hall for the benefit of the fishermen could be housed in this community centre.

3.3. Water Resources:

3.3.1. Major Irrigation:

In Gampaha District, irrigation has been used for paddy cultivation, mainly in the Attanaglu Oya basin, since 1930's. The Attanaglu Oya irrigation scheme is the largest irrigation scheme in the Western Province covering about 3,870 ha (9,550 acres) and consisting of 23 sub-schemes with independent systems. Water source of the Scheme is Attanagalu Oya and its tributaries with a catchment area of 760 Km² which is enough for double cropping of paddy. Since the paddy cultivation area in this basin extends in the low-lying area stretching along the river course, the Scheme has been developed by constructing 10 main anicuts, 22 pickup anicuts and related main canal systems as shown in Fig. 9.

Most of the structures and canals in the Scheme are about 50 years old, and, therefore, are outdated and not suitable for efficient water management. Furthermore, downstream cushions of most of the anicuts are undermined or starting to undermine. The canal system is not functioning efficiently due to scours which are one of the biggest drawbacks to achieve effective water management. In addition it was found that some more pickup anicuts are needed to maintain the intake water level to provide irrigation water to relatively elevated paddy fields.

In addition to the rehabilitation of the Attanagalu Oya Scheme, the Oruthota Yagoda Scheme which is located in the AGA Division of Gampaha should be improved. Most of this Scheme area of 485 ha (1,200 acres) have not been cultivated for over a period of 12 years due to inundation. The cause of this inundation is artificial. Due to lapsed operation of the Welikada anicut located 7 Km downstream of the Oruthota area, from single cultivation (Maha) to double cultivation (Maha & Yala), Yala cultivation of paddy in the Oruthota area became impossible.

Rehabilitation of the Attanagalu Oya and Oruthota Yagoda Schemes has priority among productive sectors due to its strong needs and expected high benefits. In case of the Oruthota Yagoda Scheme, however, certain investigation and study will be necessary in connection with the operation of existing anicuts located downstream of the Oruthota area. Taking the strong and urgent needs in Gampaha District into consideration, a quick measure (temporary) to solve the problem is proposed by providing pumping equipment to farmers who are cultivating elevated land in order to lower the intake water level of existing anicuts located downstream of the Oruthota area.

Drainage Schemes

Sepala Nathawa Ela:

This is essentially a drainage scheme to drain out the low line fields in Biyagama, Kalaniya, Mahara and part of Wattala electorates. The main drainage canals draining this area are Mudan Ela which is 6 miles 7 chains long. Nathawa Ela which branches off at 3 miles 49 chains of Mudun Ela. The length is 1 mile 36 chains. The minor drainages that drain into these main channels are 1) Sepala Ela 2) Makola South 3) Sapugahawela 4) Bruja Ela 5) Naga Ela.

This drainage scheme is to benefit 4500 Acres of paddy lands which are presently abandoned due to poor drainage. The poor drainage is brought about mainly inadequate water ways in drains bridges and culverts.

Kalu Ela - Dandugan Oya

Drainage and Reclamation Scheme

1. Location

Dandugan Oya carries part of the runoff for 284 sq. mls. of the Attanagalu Oya catchment. It crosses

the Colombo - Minuwangoda Road between the 16th and 17th mile post and flows in a great meander into the Negombo Lagoon. Kalu Ela takes off near the point where Dandugan Oya crosses the Colombo - Minuwangoda Road and falls into the parent stream again near Seeduwa, about $\frac{1}{2}$ mile upstream of the Railway line from Colombo to Negombo.

2. Present Position

The scheme area is drained by the Dandugan Oya which discharges into the Negombo Lagoon. The flood waters of Dandugan Oya are held up considerably due to the deltaic nature of the land and meandering stream. Drainage to about 1600 acres of paddy lands (reconned above + 1.0' m.s.l.) on both sides of Dandugan Oya and additional highland is considerable due to the sluggish flow caused by the existing conditions. The bed of the river is also badly silted up. These lands are subjected to inundation twice a year and the duration of the flood is sometimes about a month.

There is a rock outcrop in the river bed about $\frac{1}{2}$ mile upstream of the Seeduwa Bridge. Immediately downstream of the Seeduwa Bridge the banks of the river have been encroached by heavy growth including bamboo. This growth should be cleared back to the line of the original banks.

The Kalu Ela about $2\frac{1}{4}$ miles long and 15ft. in bed width was constructed years ago to ease the flow of Dandugan Oya. The Kalu Ela helps the Dandugan Oya waters to by pass about 8 miles of a meandering trace and it also helps to ease the drainage difficulties of the paddy tracts around it. The Kalu Ela is now heavily silted up and is in a very bad condition.

The secondary canal running north from the river to the International Air Port, parallel to railway line requires desilting and subject to lowering of the invert of a culvert.

3.3.2. Minor Irrigation:

Minor irrigation works in the district is handle by the department of Agrarian Services . Although greater importance is given to major irrigation network within the Attanagalu oya, the paddy cultivation of the rest of the district is entirely based on the rain water preserved through minor irrigation. There are over 100 such minor tanks , connected canals and over 500 anicuts and retaining walls to be constructed and maintained by the department of Agrarian Services. The proper maintenance of these minor irrigation works is hampered or owing to lack of funds. Following are the urgent needs of the minor irrigation network in the district.

1. Urgent repairs to anicuts.
2. Fixing screw gates to anicuts.
3. Desliting channels and tanks.
4. Construction of new anicuts .
5. Construction of channel bunds.
6. Cutting of new channels.

Following assistance will be needed for the technical officers who do the maintenance and repairs under this scheme.

1. Necessary equipment like Thiodolite, survey equipment cupboards, and drawing boards, letter drawing sets, and drawing sets.
2. Transport facilities for the duties such as inspection, obtaining measurements estimating, inspection of work by way of providing motor bicycles.

At the present moment, the first investment promotion zone under the greater colombo economic commission is being setup at Katunayake in close proximity to the Katunayake International air port. About 30 industries are already being setup and it is expected that this will increase to over 60 within the next year or so. The waste water from the respective industries would be discharged into a common sewer and led into a sewerage treatment plant which has been designed by the National water supply and drainage board. It is expected that about one million gallons of treated waste water will be discharged into the Dandugan oya per day. The drainage canals in the scheme are have to be so deepened and widened as to be capable of coping up with this discharge. It should be ensured that this discharge from the industrial zone into the Dandugan oya does not contain anything that could be harmful for the growth of the paddy plant.

Proposals:

- 1.1 Construction of 4 new anicuts at Kotugoda Bolanda, Ellowita, Karandawela and Polgaswatta.
- 1.2 Rehabilitation of 10 main anicuts including downstreams protection and replacement of gates.
- 1.3 Supply of machinery and equipment for maintenance and rehabilitation of canal systems.

2. Supply of irrigation pumps (diesel driven) for elevated area of about 200 ha near Welikada anicut.

3. Drainage Schemes.
 - 3.1 Desilting of Sepala Nathawa.
 - 3.2 Drainage and reclamation of Kalu ela (Dandugan oya).

3.3.3. Rural and Urban Water Supply

Water supply in the District of Gampaha mainly depends of shallow wells except for a few towns where pipe borne water is available.

National water supply and drainage Board has now undertaken to provide Western coastal area with pipe borne water under world bank assistance.

It is also proposed to provide water supply schemes to Veyangoda, Pugoda, Minuwangoda, Nittambuwa and Malwana under 'UNICEF' Assistance.

Although following water supply Schemes have been identified as very important.

These Schemes could not be undertaken due to lack of funds. Hence propose to undertake these Schemes under the I.R.D.P.

1. Mirigama water supply Scheme
2. Divulapitiya "
3. Yakkala "
4. Katunayake Seeduwa "

3 : 4 Productive Infra-structure.

3 : 4 : 1 Highways.

Maintenance of roads in Gampaha District has been carried out by the Road Maintenance Contractors under the technical and financial control of the Road Development Authority. The network of roads in Gampaha is well developed and most roads are asphalt paved. However some of the existing roads have deteriorated beyond economical repairs due to insufficient funds for maintenance. Since Gampaha District is within the wet zone constant rainfall seems to hamper good maintenance.

Total mileage of the highways in the Gampaha District could be classified in the following manner.

1. 'A' Grade roads 109 miles.
2. 'B' Grade roads 294 miles.
3. 'C' Grade roads 260 miles.
4. 'D' Grade roads 262 miles.

Maintenance and improvement of the above roads have not been carried out systematically due to lack of funds. As a result the condition of the roads has been deteriorated.

The improvement of deteriorated roads is a key to upgrade the living standard of Gampaha people and to promote to pick an uninterrupted transport of products such as coconut, paddy etc. to main towns.

Proposals .

1. Improvement of above roads including widening where-ever necessary.
- 2:1 Construction of a bridge at Mutuwadiya.
- 2:2 Reconstruction of the following 6 bridges.
 - Seeduwa - Udugampola Road, Bridge No. ½
 - Katunayake - Veyangoda Road, Bridge No. 1/6.
 - Palliyawatta - Lansiyawatta Road, Bridge no. 1/1.
 - Veyangoda - Ruwanwella Road, Bridge No. 1/1.
 - Veyangoda - Kal-Eliya Road, Bridge No. 1/2.
 - Kirindiwita - Ganemulla Road, Bridge No. 1/8.

3. Supply of equipment, materials and machinery for road maintenance and improvements.

- 3:1 Motor Grader - 01 No.
- 3:2 Jeep - 01 No.
- 3:3 Motor Cycles - 02 Nos.
- 3:4 Metal Crushers (small size) - 02 Nos.
- 3:5 Materials such as bitumen.

3 : 4 : 2 Rural Roads

Rural roads extend over a very large area in the eastern and rural electorates. Most of these roads are gravelled and running to a length of about 400 miles and maintained by the 37 sub offices of the District Development Council.

The condition of these roads affect the rural farmer because the in and out transportation of their products are mostly done through these roads. Further they have an influence over all economic and social and cultural activities of these people.

Due to the limitation of funds the District Development Council is not in a position to maintain these roads properly. Therefore, assistance from the project is an urgent need to improve the conditions of these roads. The following equipment and machinery are necessary to the District Development Council for the improvement of the rural roads.

- 1. A Motor Grader.
- 2. Two trucks for the transportation of gravel to the interior areas.
- 3. Two Road Rollers for the continuous maintenance.
- 4. One Loader.

3 : 4 : 3 Rural Electrification.

The Gampaha District falls under the overall purview of the North Western Division of the Ceylon Electricity Board and the 13 Electorates lie within the areas of four Area Engineers, viz. Kelaniya, Ja-ela, Gampaha and Negombo.

The District of Gampaha is served by the National Electricity Grid of the Ceylon Electricity Board. A greater part of the thirteen electorates falling within the District boundaries is covered by the Sub-transmission and High Tension Distribution System at 33 KV and 11 KV respectively.

The following features of the existing transmission and sub transmission net work within the Gampaha District may be noted.

- (a) 220 KV main Transmission line running through the District and serving two Grid Sub-stations, one at Biyagama (capacity 2X250 MVA) and other at Kotugoda (capacity 2X250 MVA).
- (b) 132 KV Transmission Line running through the Dompe electorate.
- (c) Extensive net work of 33 KV sub-transmission lines serving a large number of consumer sub-stations feeding individual consumers, distribution sub-stations for Local Authorities and sub-stations for Rural Electrification Schemes.
- (d) Localised net works of 11 KV High Tension Distribution Lines originating several Primary Sub-stations and serving local consumers as in the case of (c) above through a series of step down transformer Sub-stations.
- (e) 80 MW Diesel Generating Station at Sapugaskande for Thermal back up of the CEB System.

Most of the Areas in the District are within reach of the existing sub-transmission and High Tension net work and a greater part of the developed Urban Areas are served. Some of the Rural Areas have been provided electricity through Rural Electrification Schemes undertaken by the Ceylon Electricity Board from time to time.

3. RURAL ELECTRIFICATION

The Gampaha District has been included in the Rural Electrification Project funded by the ADB. Funds released from the Decentralised Budget are also utilized to carry out smaller Rural Electrification Schemes. Schedule A (attached) provides

provides a list of Rural Electrification Schemes included in the on-going ADB RE Project under three headings viz. Schemes completed up to end of 1985, Schemes in hand and Schemes which have been planned for execution in 1986 - 87. The estimated cost of the first two categories is also indicated. In addition, the Schedule gives the approximate value of Small Rural Electrification Schemes (mostly extensions to low tension distribution lines), which have been completed up to the end of 1985.

4. CONSTRAINTS IN THE IMPLEMENTATION OF RURAL ELECTRIFICATION SCHEMES

All Rural Electrification Schemes funded various sources are carried out by the Construction Units of the Ceylon Electricity Board attached to the North Western Division of the CEB.

Due to the heavy work load of the Construction Units, the execution of Rural Electrification Schemes has not proceeded as programmed. Steps have been taken to correct this problem by giving out part of the construction work on contract to local contractors who have been selected on the basis of open tender.

With this arrangement in operation, it is expected that the present programme of work could be completed by 1987.

PROPOSALS UNDER IRDP.

It is suggested that a suitable number of villages be selected for electrification under the IRDP. Village areas for Rural Electrification proposals undertaken as part of the integrated Rural Development Project have to be initially identified by the Project Authorities as part of the Integrated Programme envisaged for the District. Such proposals should ideally form part of the infra-structural input to support the overall development proposals contained within the IRDP. Project.

It is therefore necessary for the Project Authorities to first identify areas which have to be provided electricity and inform the CEB, after which a more detailed investigation will be carried out by the RE Project Branch. A report will be submitted

submitted indicating the nature and extent of work, the approximate cost, the anticipated consumer potential and revenue, along with a simple working out of the annual revenue return as a percentage of the implementation costs. This index would serve as general indicator of the viability of the Schemes. A computer programme for working out Internal Economic Rate of Return (IERR) is also available.

Rural Electrification Schemes for implementation under the Project could then be finally decided upon on the basis of this report and an order of priority worked out to suit the programme of work forming part of the Integrated Rural Development Programme. These aspects will be the responsibility of the Project Authority.

Thereafter the Ceylon Electricity Board will undertake to construct, maintain and operate the Schemes. The total construction cost is payable in advance according to the order of priority decided upon by the Project Authorities.

3 : 5 - Social Infra-structure.

3;5;1 - Health

The health status of the people in Gampaha District as measured by the standard indices such as crude birth rate 16.1(1984), crude death rate 5.8(1984), maternal mortality 0.3 (1980), infant mortality rate 24(1980), neonatal mortality rate 16.5(1980) and life expectancy of 66 compares favourably with those of other districts that have satisfactory health status. Yet variations in health states of the people of different health areas in the district are evident.

The rate of acute malnutrition is around 7.7 while chronic malnutrition stands at 13.4 . On studying the morbidity and mortality patterns during the year 1965 to 1984 it is noticed that major causes for morbidity and mortality are infectious and parasitic diseases, diseases of the respiratory system, complications of pregnancy and child birth, acute myocardial infection, slow foetal growth, foetal malnutrition and immaturity.

The disease pattern also shows an emergence of diseases that are present with development, industrialization and urbanization such as cardio vascular diseases, occupational diseases, insecticide poisoning, accidents etc., while at the same time diseases due to poor environmental sanitation, lack of safe water, malnutrition and poor housing still remain in the fore front.

Table 1 :

	<u>Gampaha District</u>	<u>Sri Lanka</u>
Crude birth rate	16.1 (1984)	26.2 (1983)
Crude death rate	5.8 (1984)	6.1 (1983)
Infant mortality rate	24.0 (1984)	34.4 (1983)
Maternal mortality rate	.35 (1984)	.8 (1983)

Though the health status indicates in Gampaha District in general show a satisfactory state, there are pockets of populations where the health status needs improvement. Such areas include the electorates of Divulapitiya, Mirigama, Attanagalle, Dompe, Gampaha and Minuwangoda. As such this project concentrates on the upliftment of the health status of the section of the population that needs it most.

- Health Service Provision in Gampaha District:

There were 132,007 indoor patients and a total of 2,373,776 O.P.D. visits in the 48 health institutions in Gampaha District during 1985.

Table 2:

Indicators for monitoring HFA availability of PHC in Gampaha District.

	1	2	3.1	3.2	3.3	4	5	6
Gampaha	74.3 (1981)	83.3 (1981)	62.1 (1984)	60.6 (1984)	67.7 (1984)	53.8 (1984)	90 (1980)	61.3 (1980)
Sri Lanka	69.6	66.6	66.8	66.4	65.4	47	79	76.4

1. % of population with water at home or vicinity.
2. % of population with adequate sanitary facilities at home or vicinity
3. % Infants immunised with.
 - 3.1. B.C.G.
 - 3.2. D.P.T.
 - 3.3. O.P.V.
4. % of pregnant women immunised against Tetanus Toxoid.
5. % of women attended to by trained health staff during pregnancy.
6. % of number of deliveries at institutions.

As seen from the above table the availability of PHC with regard to immunisation, maternal care and child care had been low when compared with the national figures in Gampaha District.

Table 3 :

Hospital Statistics : 1985

Health Institutions in the selected areas of Gampaha District:

<u>Name of Hospital</u>	<u>Bed strength</u>	<u>Total indoor patients</u>	<u>Total outdoor patients</u>
Base Hospital, Gampaha	337	27,884	237,302
B.H., Watupitiwela	333	28,847	164,842
B.H. , Negombo	333	25,778	242,750
District Hospital, Divulapitiya.	98	9,177	110,294
D.H., Mirigama.	188	12,175	130,426
D.H. Minuwangoda	75	8,358	85,518
D.H., Dompe.	108	8,879	118,300
Peripheral Unit, Radawana	64	2,943	50,115
P.U., Akaragama	12	615	17,218
Central Dispensaries & Maternity Homes	164		

Table 4 :

Manpower facilities in the District : 1985

	<u>Actual number</u>	<u>No. per 1000 population</u>
Medical Officers (Inclusive of Specialists & Medical Officers of Health)	65	.04
Asst. Medical Practitioners	65	.04
Staff Nurses	336	.22
Public Health Nurses	21	.01
Public Health Inspectors	68	.04
Family Health Workers (Public Health)	281	.18
Family Health Workers (Institution)	117	
Pharmacists	17	
Medical Laboratory Technologists	16	
Dispensers	29	

Problems/Deficiencies in health care delivery systems:

- (1) Coverage of the entire population of the selected areas with essential health care is not satisfactory. Population increased from 300 per sq.km. to 600 per sq.km during the last 10 years but the improvements in health care delivery during the same period could not cope to this situation.
- (2) Compared to other areas, health services provision in these areas are low. Targets to be achieved under immunisation, ante natal care during the year 1985 could not be accomplished.

Table 5 :

<u>Immunisation Coverage</u>		
	Targets	Achieved
Kochchikade M.O.H.(Divulapitiya)	82%	65%
Kirindiwela M.O.H.(Dompe and part of Attanagalle)	82%	75%
Mirigama M.O.H.	75%	73.9%
Gampaha M.O.H.	90%	65%

- (3) Mortality and morbidity from diarrhoeal diseases are high in these areas :

	Patients	Deaths
Kirindiwela M.O.H. area	173	1
Mirigama M.O.H. area	81	8
Gampaha M.O.H. area	182	1
- (4) In the selected areas even the private sector health facilities available are inadequate. It is also reported that there are few unqualified practitioners and untrained midwives practising in these areas.
- (5) Administrative divisions that are the ACA divisions do not correspond to the MOH Divisions in the present system leading to many administrative problems.
- (6) Coordination between preventive and curative services is inadequate.
- (7) Due to absence of a proper referral system the utilisation of smaller institutions is suboptimal. Patients often by pass these institutions leading to over crowding of major institutions.
- (8) Promotive and preventive aspects of health care do not receive adequate attention though 60 % of patients seen at outdoor and indoor are suffering from preventable diseases.

- (9) Social resources and community participation are not fully utilised.
- (10) Inadequate supervisory and logistic support.

In order to correct the above deficiencies in the selected areas this proposal attempts to restructure the health care delivery system through.

- i. Establishment of a number of Gramodaya Health Centres to provide one unit for a cluster of villages of about 3,000 people, so that the essential health care is available to all people close to their homes.
- ii. Promotion of community participation through tapping of community resources.
- iii. Promotion of inter-sectoral coordination at local levels including coordination with MCO s.
- iv. Strengthening the network of divisional and sub-divisional health centres so as to ensure logistic supervisory and referral support to Gramodaya Health Centres and
- v. Gradual functional integration of curative and preventive with emphasis on its preventive component.

(4) Objectives:

Main Objectives:

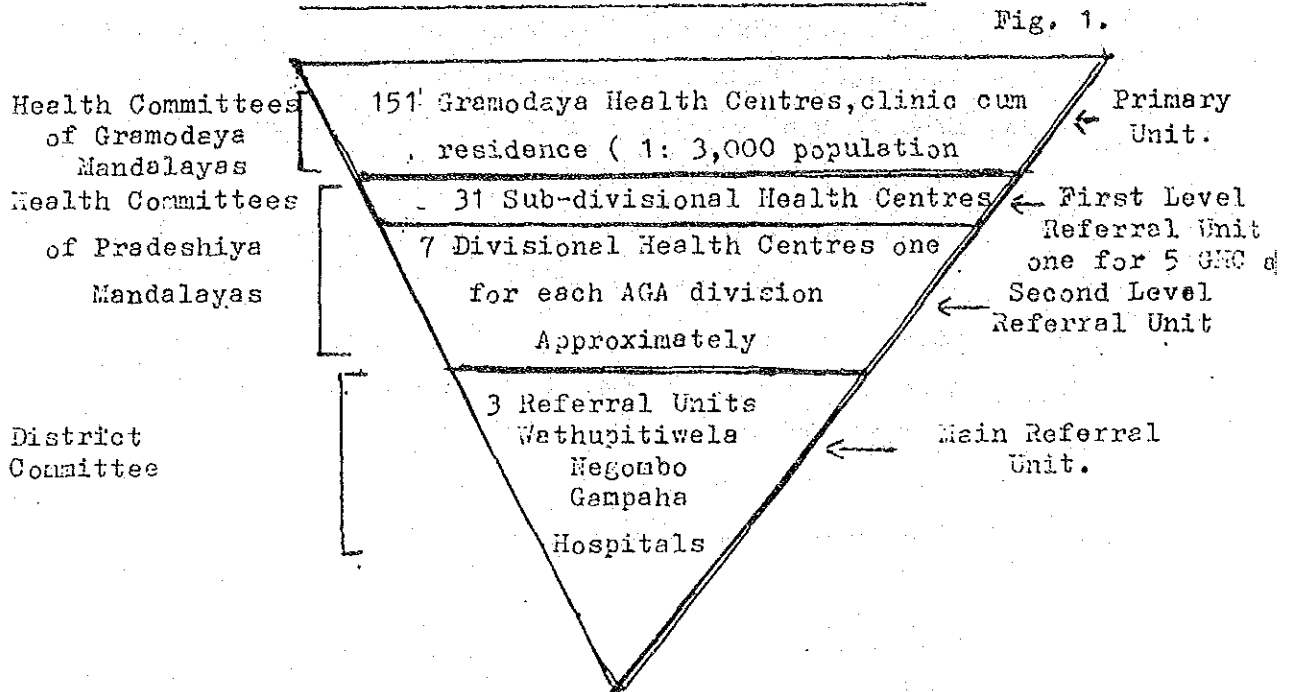
To establish a health system based upon primary health care approach which provides essential health care to the entire population in the selected areas using a large measure of community participation and locally appropriate health technologies.

Specific Objectives:

- i. to strengthen health care delivery at the local level by the provision of an adequate number of Primary Health Care Complexes with Gramodaya Health Centres (for groups of villages), upgraded Sub-Divisional and Divisional Health Centres.
- ii. to achieve integration of promotive, preventive and curative health services, aiming at provision of comprehensive health care

- iii. Streamline the supervisory and referral components of the district health care systems
- iv. to create adequately trained, oriented and motivated cadre of health personnel with emphasis on PHC workers (Family Health Workers - FHW)
- v. to raise community participation to an adequate level in order to develop PHC activities among population groups.

THE PROPOSED "THREE-TIER" PHC COMPLEX



5. Major Components:

The project proposal has the following major components :

Restructuring the health care system by -

- a. establishing primary health complexes (7) comprising (a) upgraded(5) and new Divisional Health Centres (2) Sub-Divisional Health Centres(31 and (b) new Gramodaya Health Centres (151)
- b. provision of required personnel suitably trained and re-orienting the existing personnel at the P.H.C. complexes.
- c. provision of essential equipment, supplies and transport for the health facilities.
- d. improvements in 3 base hospitals to cater to referrals.
- e. involvement of community organisation and non-governmental associations in health development work.

6 DESCRIPTION

Improvement of the present health care delivery system

In order to eliminate the weaknesses in an otherwise good network of health facilities, and specifically to establish a more rationally organised health care system which improves the access of the entire population to essential health care, the project aims to accomplish the integration of the divisional, sub-divisional and village level health facilities into a composite primary health care complex - the central object of the new national P.H.C. model. To this end, it is proposed to establish Gramodaya Health Centres (GHC) as the basic peripheral institution for each Grama Sevaka Area (Administrative sub-division of the Assistant Government Agent (AGA) division includes group of villages) with an average of 3,000 people, or about 500 households. The GHC will be supported by the existing Central Dispensaries which are to be upgraded into Sub-Divisional Health Centres by adding physical facilities and staff, and new Sub-Divisional Health Centres to serve a population of 20,000. The SDECs will serve as the first referral tier and supervisory tier for the GHCs.

Similarly, one Divisional Health Centre is to be established by upgrading the existing rural hospitals peripheral unit or by establishing new centres, in each of the A.G.A. divisions, to serve a population of 60,000.

At the base of the pyramid will be the Gramodaya Health Centre (GHC) manned by a FHW (PHW). It is stipulated that there will be one GHC for each Grama Sevaka area. The aim of providing the GHC is two-fold.

Firstly, it will provide a work-place for the FHW within the community.

At present, the FHW attends to a fewer number of home deliveries, and in the absence of a residence, does not usually stay within the community. The resulting absenteeism, compounded by poor supplies, equipment supervision and referral system, seriously discredits the peripheral facilities. The provision of housing will remedy this.

Secondly, the GHC will provide the much needed base from which PHC services will flow to the community with its active support and participation, through further development of Village Level Volunteers (VLV) and Village Health Committees (VHC).

Sub-Divisional Health Centres (SDHC) - This institution will be under an AMP (Sub-Divisional Health Officer) and will have two PHII, and FHW and one dispenser on its staff. These personnel will work both in the institution and in the field. The SDHC will provide supervision and referral support to the Gramodaya Health Centres, its specific functions are presented in figure 2.

Within the basic principle that no facilities will be downgraded, to begin with all existing Rural Hospitals, Central Dispensaries cum Maternity Homes and Central Dispensaries will be converted into Sub-Divisional Health Centres. Eventually, each A.G.A. Division will have five SDHCC totalling to about 31 within the selected area.

Divisional Health Centre (DHC) - One Divisional Health Centre will be established in each A.G.A. Division. These centres will have inpatient facilities (about 60 beds) and will provide an integrated curative and preventive services. Presently working peripheral units and small District Hospital will be converted into DHCC by strengthening them appropriately. Eventually there will be about 7 DHCC at the rate of one in each A.G.A. Division.

The Divisional Health Centre is needed by a Divisional Health Officer. The DHC will not only serve as a referral unit for the SDHCC in its ambit, but also provides supervisory, logistic and technical support to the HDHCC and the GHCC. The staff of the DHC will move into villages to provide and supervise any health care in support of those being provided by the staff of SDHCC and GHCC.

In 1981 District Development Councils were elected in each of the 24 Districts of the country. Planning of the development activities of the district health services form part of their responsibility. Divisional and village level of these councils namely, Pradeshiya Mandalayas and Gramodaya Mandalayas are also

are also being established.

A mechanism for integrated development of the division is available through Pradeshia Mandalayas. The heads of various government departments at that level, including the Divisional Health Officer, are ex-officio members of the same. Certain selected voluntary agencies are also represented therein. This mechanism will be strengthened to ensure full and continuing support to health development in this area.

The causative factors behind the morbidity and mortality in the country are seemed to be closely related to poor sanitation, malnutrition, unsafe water and diseases resulting there from are diarrhoeal diseases, communicable diseases, infections and parasitic diseases, anaemias, immaturity etc. The services directed towards such health problems have been identified and directed towards the susceptible population.

The main features of this proposals as presented are :

1. A three tiered referral system at the community level which will form a PHC complex.
2. The provision of an integrated health care services, and
3. An infra-structure more amenable to better management.

The essential support service system such as health information, planning and management, supplies and logistics are being strengthened by the on going project for strengthening District Level planning and management system and procedures in support of PHC development.

Gampaha District covers 13 electorates and has 17 Education Circuits of which 9 are in the Gampaha Region and the rest are in Minuwangoda Region. According to 1981 census the district had a population of 1,389,490 of which 72.2 per cent was rural. This district has a higher participation rate in education than the District of Colombo. In 1981 88.7 per cent of the population of the Gampaha District in the age span 5 - 14 attended school. The corresponding percentages for the Colombo District and Sri Lanka were 87.1 and 84.8 respectively. The District also has a wide net work of schools reaching out to the remotest village in the area. In all there are 46 Pirivenas and 596 schools which include 38 - 1 AB with Advanced Level Science facilities 99 1C with Advanced Level arts and commerce, 273 with classes up to General Certificate of Education (Ordinary Level) and 86 primary schools, with a total of student population of 299,565. However, parameters such as population density and transport facilities confer advantages associated with urbanization in some areas of the District. As a result the size of the school vary. Small schools are generally located in the remote and uncongenial areas where the social economic and educational levels of the inhabitants are relatively low. The disadvantages associated with poor environments are reflected in schools which have inadequate infra-structural facilities resulting in comparatively low standard of education. It has been observed that the number of grade repeaters and drop outs too is high in the remote village schools. Due to the lack of facilities in the schools in the District nearly 5137 students daily travel to Colombo (Ref. Ministry of Education 3/PP/P/4 dated 25.04.1984).

Hence if immediate steps are not taken to avert this situation the problem will be aggravated in the years to come. According to the Three Year Investment Plan prepared by the Department of Education, Gampaha, after a very close study of this situation the following problems were identified :

1. The students flow from this District to Colombo.

2. The student flow from rural to urban schools within the District itself.
3. The education wastage due to the following facts:
 - (a) due to the flow from rural areas to urban areas some rural schools are depleted.
 - (b) The high rate of dro outs, grade repeaters and the non-school goers.
4. The poor management of some Principals as First Line Managers.
5. The lack of facilities in schools.

With a view to solving these problems the following proposals are presented.

- (1) To establish an institute of Technology at Yakkala.
- (2) To raise at least three schools in the District to the level of prestigious schools in Colombo by providing buildings, equipment and other facilities.
- (3) To establish 4 fully equipped primary schools to be on par with the prestigious primary schools in Colombo.
- (4) To establish 8 Divisional Education Offices.
- (5) To develop 13 core schools of the school clusters.
- (6) To develop 3 Pirivenas.
- (7) To establish an Education Management and Research Centre.

The details of these proposals have been prepared by the Regional Director of Education, Gampaha.

3 : 5 : 3 Sports and Recreation.

Gampaha District has always excelled in the field of sports. It has produced many of the members of the national sport teams. But it is really regretting to note that the District has very poor facilities available in the field of sports.

In this context a prime requirement for the District is a Stadium in a central place. At present we do not have at least a 400 metre track for our athletes. There are two 400 metre tracks belonging to two schools but at two extreme ends of the District. Therefore, a Stadium with modern facilities within the capital town and two or three spacious play grounds to serve the youths in interior electorates like Divulapitiya and Dompe will be of great help in uplifting the social life of the rural people.

There is a District Sports Officer attached to the Kachcheri and Divisional Sports Officers in the Assistant Government Agent Divisions. Although these officers are full time engaged in training and directing the young population to achieve the benefits of sports and athletics a difficulty faced is the non availability of sufficient sports material. Therefore a scheme to provide sports goods specially to Sports Clubs in rural areas has to be considered as an urgent need.

For the promotion of cultural activities in the District we suggest that a cultural centre with a large hall be constructed along with the Stadium. It should include facilities for the training of local artists.

3 : 6 Administrative Infra-structure.

Being recently created as a new administrative unit, Gampaha District has very limited resources available in the functioning of its administrative machinery. Therefore, an integrated development plan for the district must necessarily incorporate measures for the development and improvement of the administrative infra-structure and the personnel, in order to avoid a possible implementation gap.

When the District was formed from a part of the former Colombo District under the Constitution of the Democratic Socialist Republic of 1978, the administrative offices were located in various available buildings around Gampaha town and most of them still function in these isolated buildings. Department of Survey, Buildings, Local Government, Housing, Land Registry, Minor Exports, Co-operatives, Irrigation and institutions like Agricultural Development Authority, Land Reform Commission and Highway Authority are thus scattered away from the District Ministry. And the District Officer of Health and Fisheries are stationed at places as far as 20 miles in Maligawatta and Negombo respectively. This situation inevitably creates problems of communication and inability of exchanging mutual benefits. Therefore, housing the key Administrative Offices together in one Secretariat is of high priority.

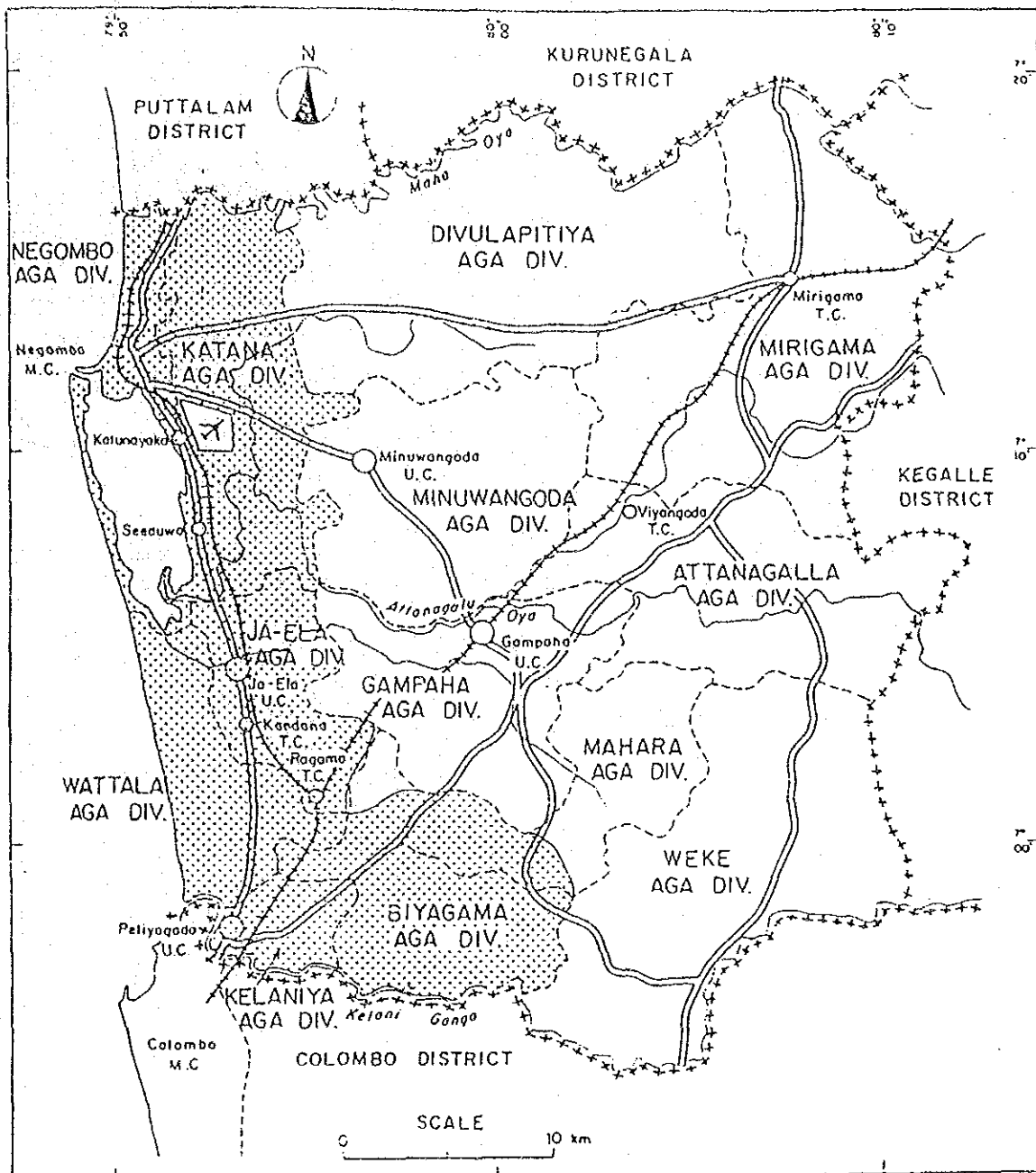
This Secretariat should include as a part of it an air conditioning Record Room to store the documents of vital importance like the records pertaining to births, deaths, marriages and duplicates of legal documents pertaining to lands. At present about 126,700 such records and an annual intake of about 20,000 to 32,000 are kept unprotected exposed to excessive heat and humidity facing the danger of decay. Further in order to keep pace with the modern technological development, modernization of the administrative process is essential. A computer Unit with photo copying facilities, housed in the Secretariat can serve all the Department Offices and help in saving vast volume of manpower spent on documentation and other paper work. Similarly a printing unit with modern technique

will help most of these offices to get their printing done without rushing to Colombo and other places. It has been estimated that the volume of printing work in the District Ministry, the Development Council, Election Office, Education Department and other offices annually require is more than sufficient for the running of the press.

The Project Office constituting a part of the main Secretariat should contain the necessary equipment and facilities for the offices engaged in the implementation. In this respect it has to be stressed that the District does not possess the benefit of accumulated resources over a long period like vehicles, residential quarters, communication facilities and other equipment, which the other districts enjoy.

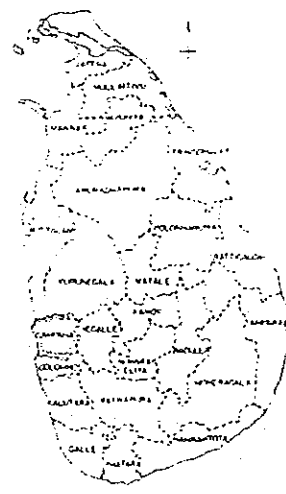
Summary of Proposals for the development of Administrative infra-structure are given below.

1. A four storied Secretariat to house 15 District Level Offices with space area of 4 x 27,000 sq. ft. including the following :
 - I. Computer Unit.
 - II. Air conditioned space of 4000 sq. ft. for the Record Room.
 - III. Printing Press - medium scale to handle the printing work of the 15 departments with necessary equipments.
2. Requesting for the Project Office with necessary equipment.
3. Residential quarters for project officers.
4. Two Jeeps.
5. Telecommunication facilities for the officers in the project.
6. Training facilities for the project staff.



LEGEND

- +++++ District Boundary
- AGA Division Boundary
- ~~~~~~ River
- ==== Main Road
- Railway
- Free Trade Zone



GENERAL MAP OF GAMPAHA DISTRICT

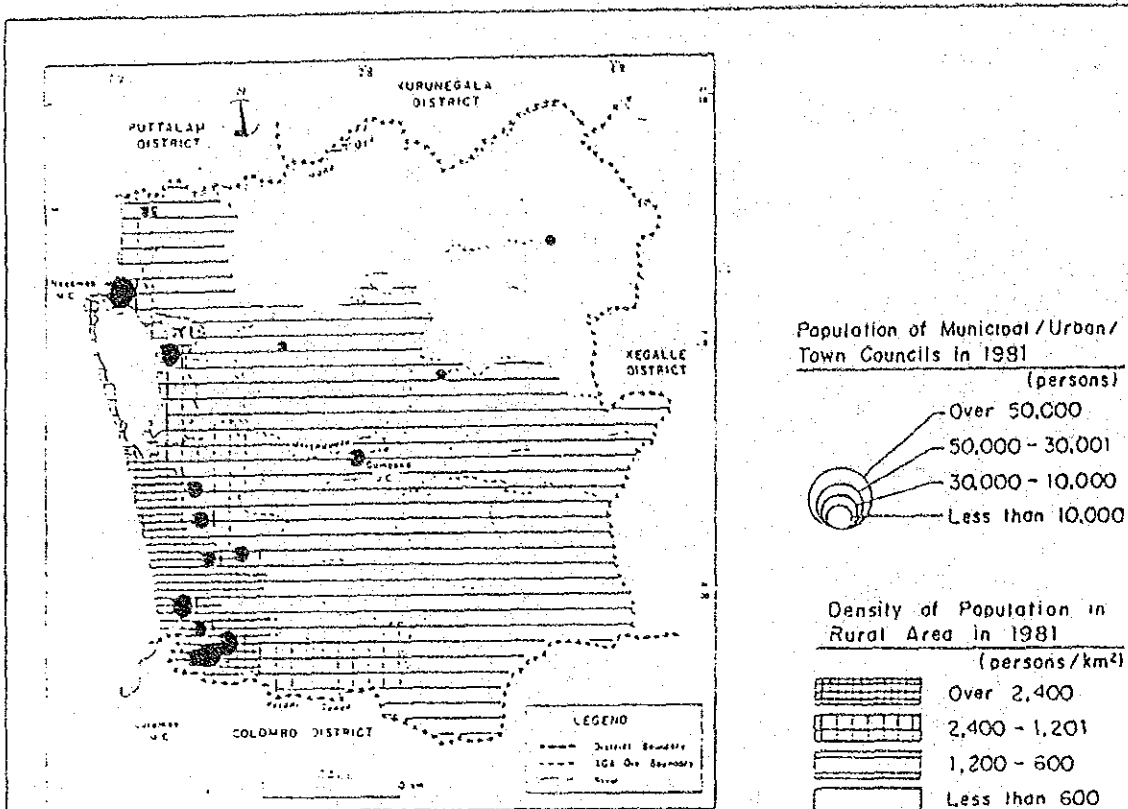


Fig. 2 Distribution of Population in Gampaha District (1981)

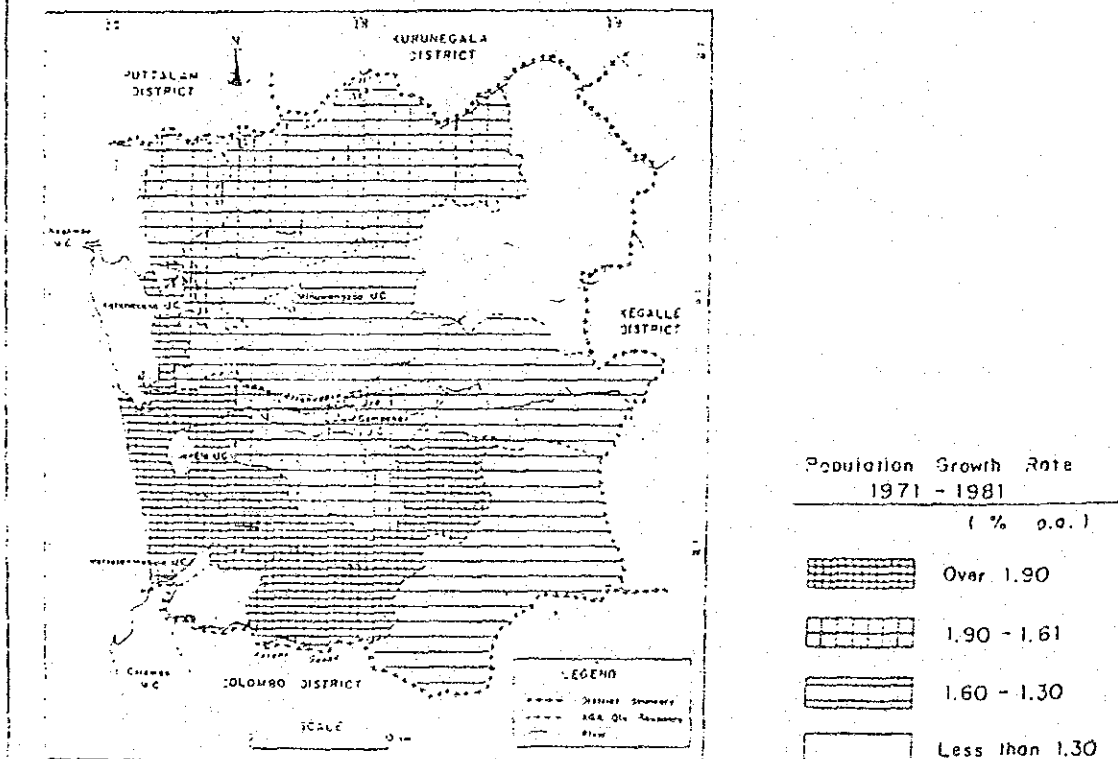
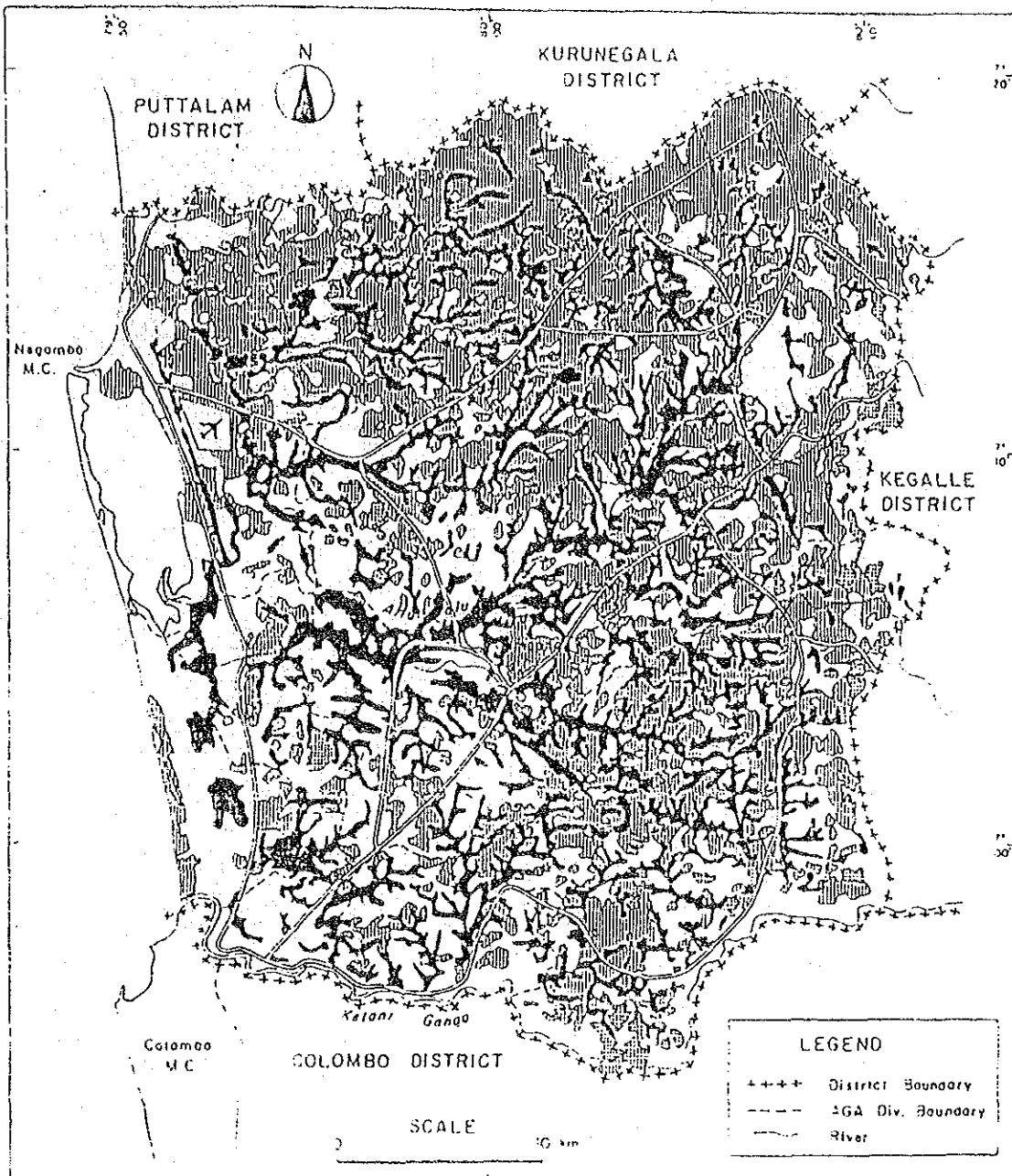
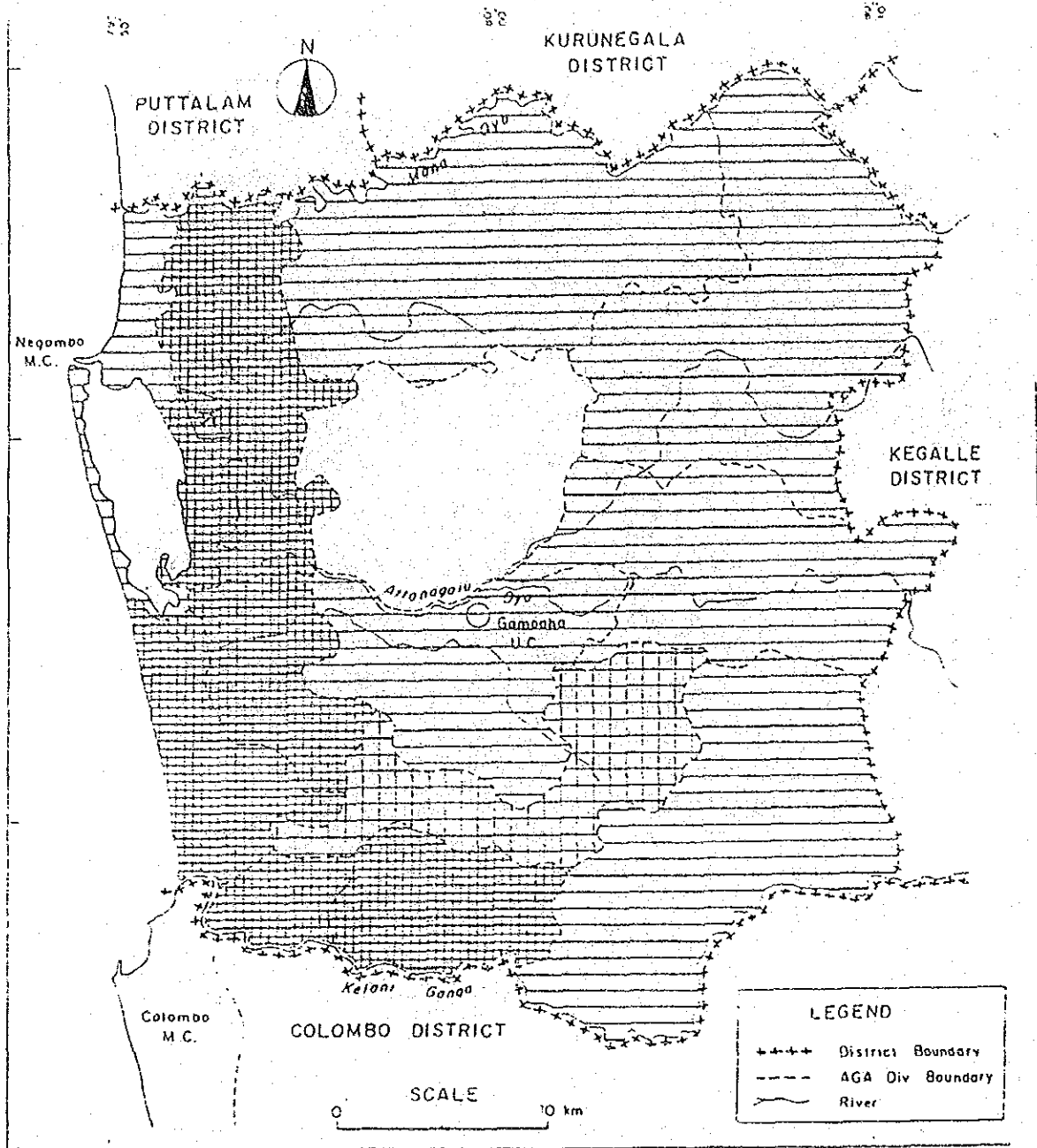


Fig. 3 Population Growth Rate in Gampaha District (1971 - 1981)



Land Use	Symbol
Coconut	[Vertical line pattern]
Rubber	[Horizontal line pattern]
Paddy	[Dotted pattern]
Homestead Garden	[White box]

Fig. 4 Agricultural Land Use Condition in Gampaha District



Share of Agricultural Land (1980)
% to Total Division Area

	Over 85
	85 - 76
	75 - 65
	Less than 65

Fig. 5 Share of Agricultural Land in Gampaha District (1980)

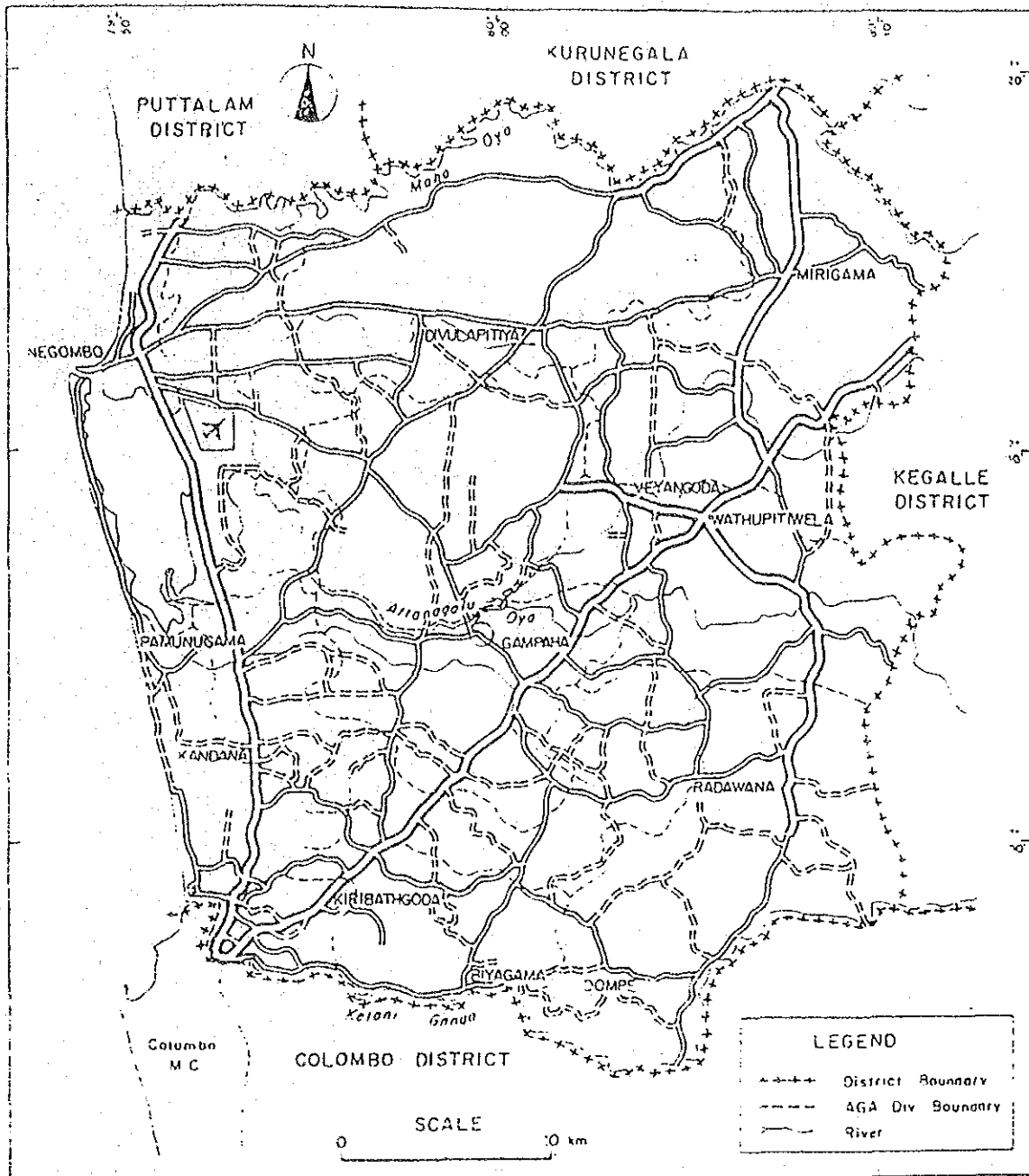
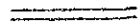
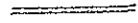
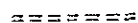
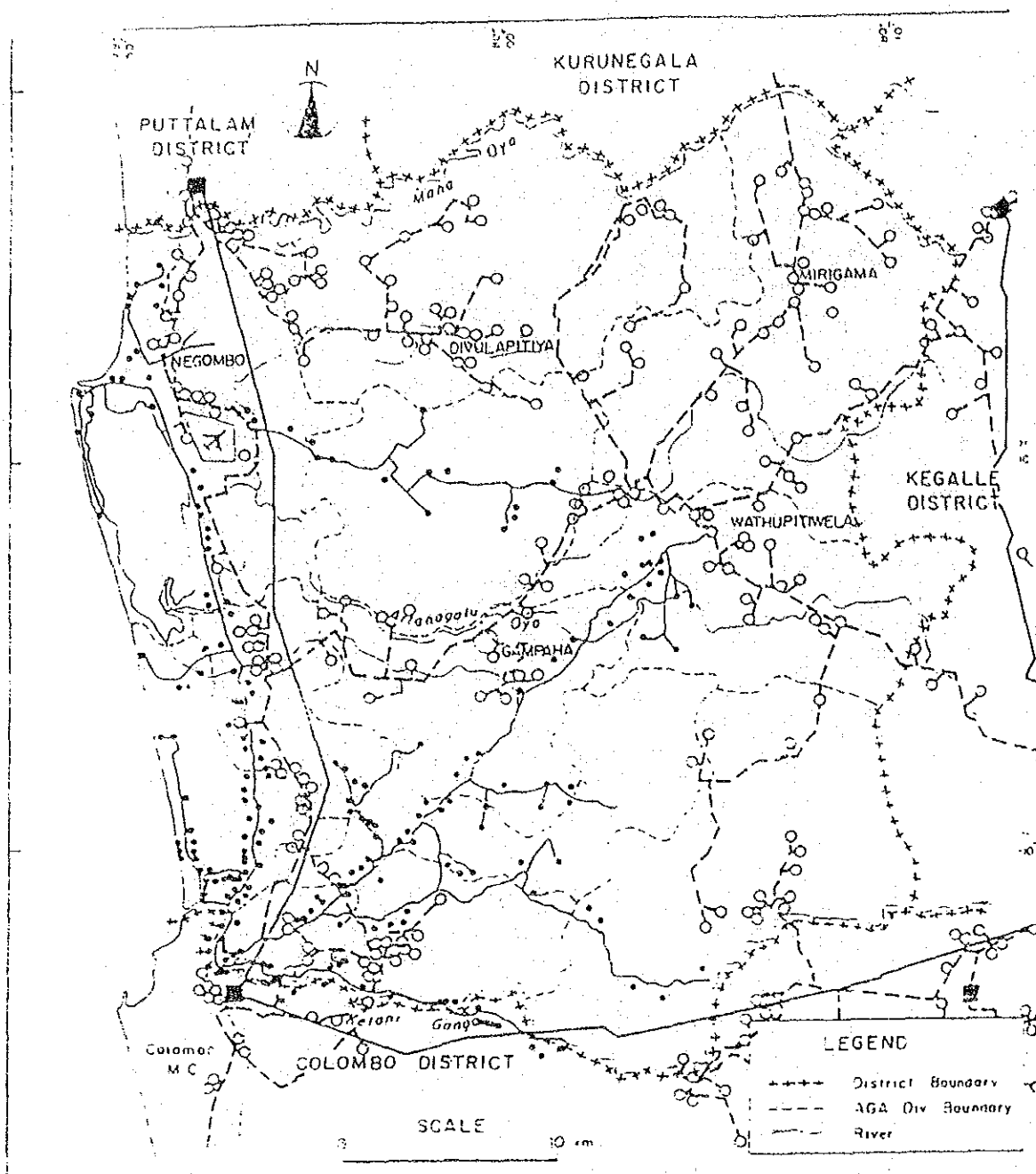


Fig. 6 National Road Network in Gampaha District

National Road

-  Class A - connecting Capital
-  Class B - connecting class A roads and major roads
-  Class C - connecting class B roads and major towns









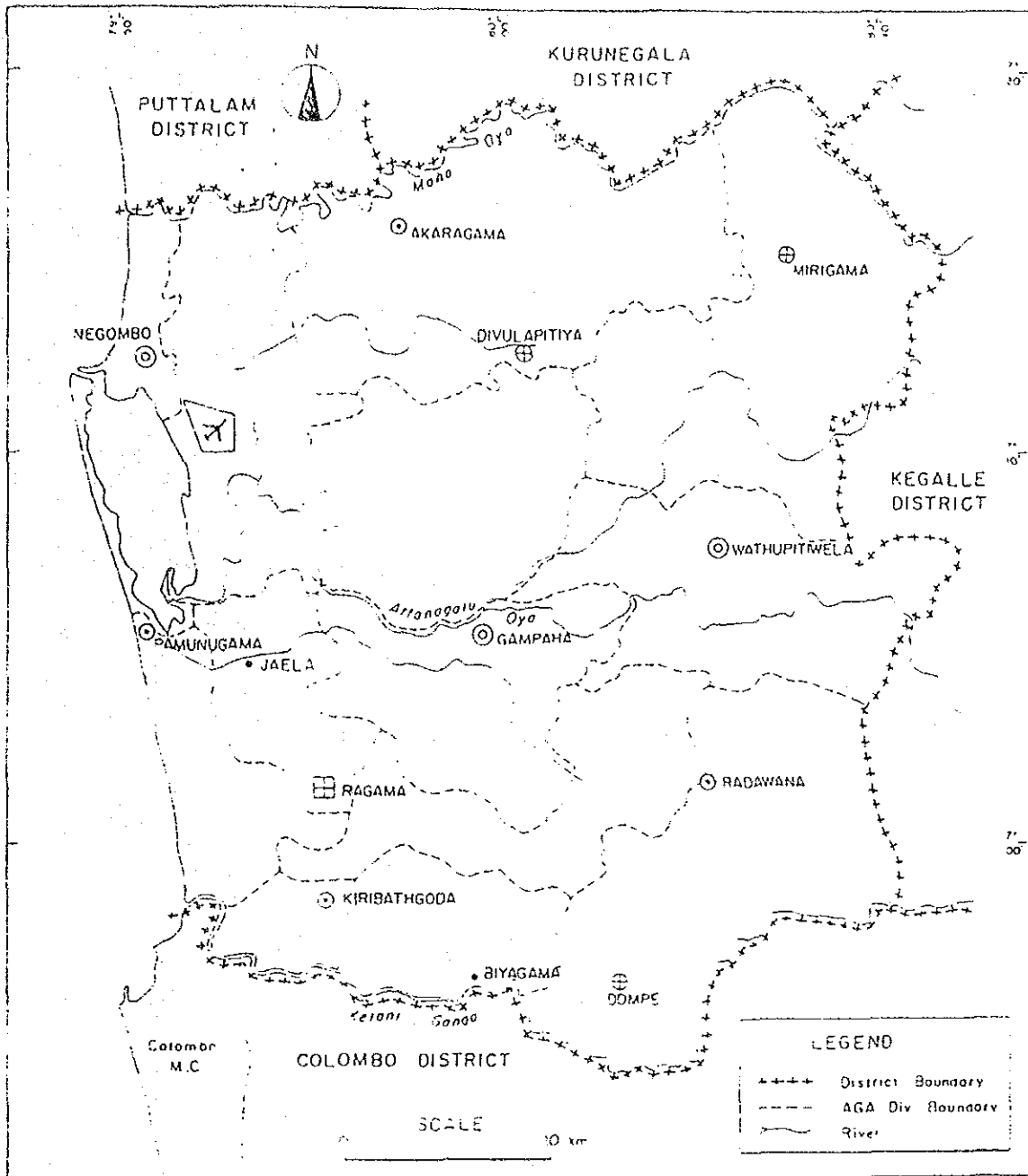
Distribution Line	Station
 132 KV	 132 KV Sub Station
 33 KV	 33 KV Sub Station
 11 KV	 11 KV Sub Station

Fig. 7 Distribution Network of Electricity in Gampaha District



LEGEND

- ++++ District Boundary
- - - - AGA Div Boundary
- ~ ~ ~ ~ River

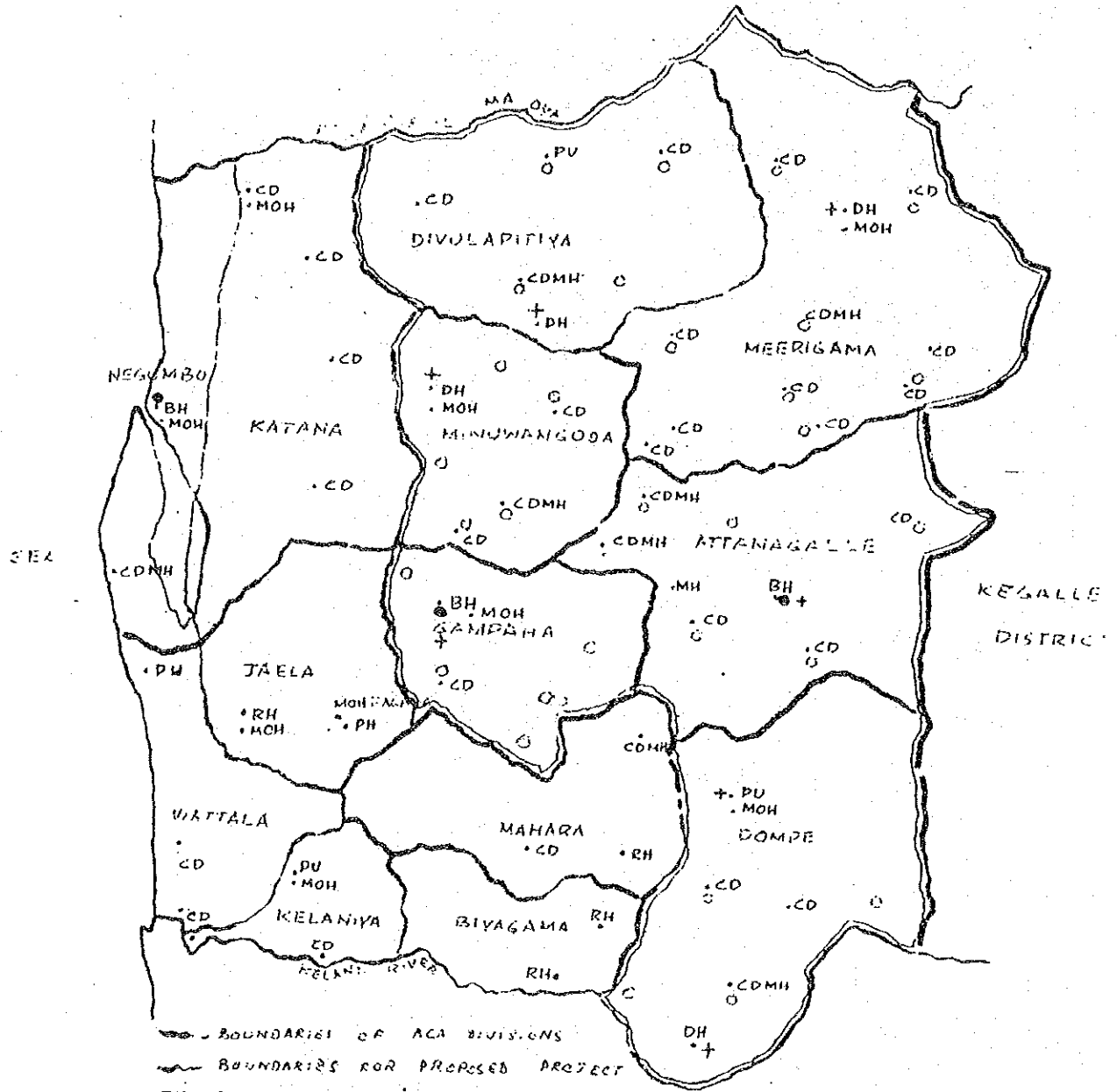
Hospital

- ⊞ General Hospital
- ⊙ Base Hospital
- ⊕ District Hospital
- ⊙ Peripherat Hospital
- Rural Hospital

Fig. 8 Distribution of Hospital in Gampaha District

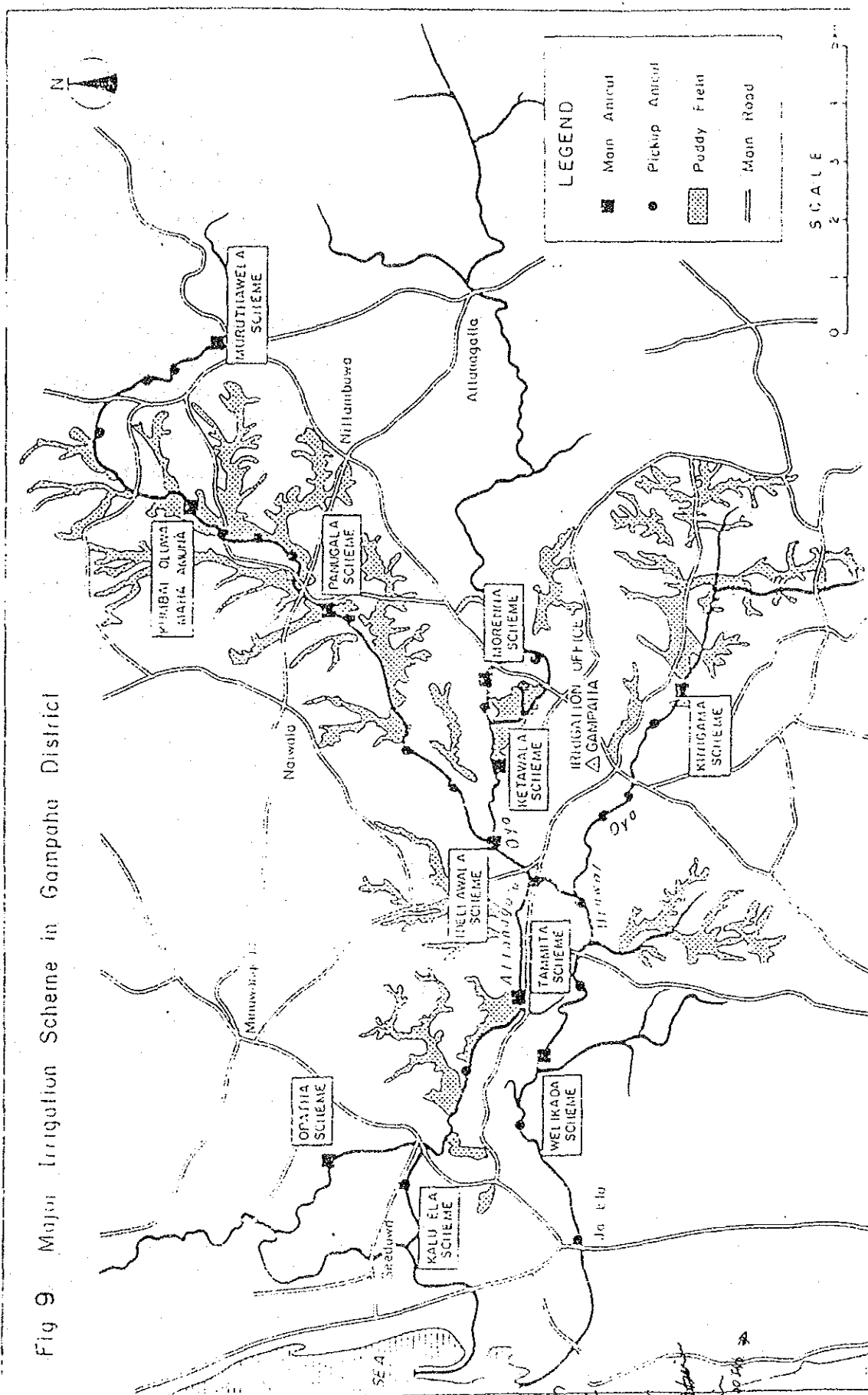
8. II. PROPOSED MEDICAL INSTITUTIONS

- PROPOSED REFERRAL UNITS
- + PROPOSED DIVISIONAL HEALTH CENTRE
- PROPOSED SUB-DIVISIONAL HEALTH CENTRE



- BOUNDARIES OF ACA DIVISIONS
- BOUNDARIES FOR PROPOSED PROJECT
- PH - PROVINCIAL HOSPITAL
- BH - BASE HOSPITAL
- DH - DISTRICT HOSPITAL
- PU - PERIPHERAL UNIT
- RH - RURAL HOSPITAL
- CDMH - CENTRAL DISPENSARY AND MATERNITY HOMES
- CD - CENTRAL DISPENSARY
- MOH - OFFICE OF THE MEDICAL OFFICER OF HEALTH

Fig 9 Major Irrigation Scheme in Gampaha District



4. 収 集 資 料 リ ス ト

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-MARGA INSTITUTE, Sri Lanka Centro for Development Studies.
<内容> 統計, 農業, 農業マーケティング及び農業信用, 牧畜, 漁業, 工業, 工芸, 観光,
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<内容> 地形, 政府の組織(地方を含む), 人口, 経済, 土地開発, IRDP, 農業, 産業,
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4. 「 GAMPAHA DISTRICT REPORT - Census of Population and Housing
1981 」
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<内容> 地形, 人口, 歴史, 政府, 国際関係, 貿易, 産業, 運輸, 教育等。
6. 「 STATISTICAL POCKET BOOK OF THE DEMOCRATIC SOCIALIST OF
SRI LANKA 1985 」
7. 「 Public Investment 1984-1988 」
National Planning Division, Ministry of Finance and Planning.
<内容> 中期展望, 農業, 産業, 経済インフラ, 社会インフラ, 公共投資
8. 「 Report on Consumer Finances and Socio Economic Survey 1981/1982
SRI LANKA 」 Part I, II
社会経済関係の統計資料 - 人口, 労働力, 収入, 消費
9. 「 CENSUS OF AGRICULTURE 1982 Small Holding Sector Gampaha
District Report 」

10. 「Report of the Sample Survey of Intercropping in Coconut Lands」
National Planning Division, Ministry of Finance and Planning.
11. 「National Agriculture, Food and Nutrition Strategy」
農業関連開発目標, 農業関連政策
〈内容〉 研究, 農業信用, マーケティング, 価格政策, 農産加工業, 畑作振興, 作物別戦略, かんがい・土地利用, 林業, 牧畜, 漁業, 優先投資戦略。
12. 「Economic Performance in the first half of 1985」
Central Bank of Ceylon.
〈内容〉 全般の傾向, 農業(茶, ゴム, ココナツ, 米, その他)
13. 「Price and Wage Statistics 1984」 B5, 216p.
— Statistics Dept., Central Bank of Ceylon.
14. 「Central Bank of Ceylon — Annual Report 1984」
〈内容〉 スリランカ概況指標, GNP, 農業(各作物別), 産業, 経済インフラ, 社会インフラ(エネルギー, 運輸, かんがい開発, IRDP), 雇用, 物価, 賃金, 貿易, 観光, 国際収支, 政府予算, 通貨及びこれらに関する統計資料。

JICA