No.

JAPAN INTERNATIONAL COOPERATION AGENCY (JICA)

MINISTRY OF ENTERPRISE DEVELOPMENT,
INDUSTRIAL POLICY AND INVESTMENT PROMOTION
THE DEMOCRATIC SOCIALIST REPUBLIC OF
SRI LANKA

FOLLOW-UP STUDY
ON
INDUSTRIALIZATION AND INVESTMENT PROMOTION
IN THE DEMOCRATIC SOCIALIST REPUBLIC OF SRI LANKA

(TECHNOPARK)

FINAL REPORT

March 2002

KRI International Corp.

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PREFACE

In response to a request from the Government of the Democratic Socialist Republic of Sri Lanka, the Government of Japan decided to conduct the Master Plan Study for Industrialization and Investment Promotion in Sri Lanka (Phase 1 and Phase 2) and the study was implemented by the Japan International Cooperation Agency (JICA) from February 1999 to June 2000.

This study was implemented as a Follow-up Study of the above Master Plan Study, focusing on the plan of Techonopark in Sri Lanka proposed in the Master Plan Study. JICA sent a study team, led by Mr. Hajime Koizumi, President of KRI International Corporation, and organized by members of KRI International Corporation to Sri Lanka from February 2002 to March 2002.

The team held discussion with the officials concerned of the Government of Sri Lanka, and conducted related field surveys. After returning to Japan, the team conducted further studies and compiled the final results in this report.

I hope this report will contribute to IT industry development in Sri Lanka and to the enhancement of friendly relations between our two countries.

I wish to express my sincere appreciation to the officials concerned of the Government of Sri Lanka for their close cooperation throughout the study.

March 2002

Takao Kawakami
President
Japan International Cooperation Agency

March 2002

Mr. Takao Kawakami
President
Japan International Cooperation Agency (JICA)

Letter of Transmittal

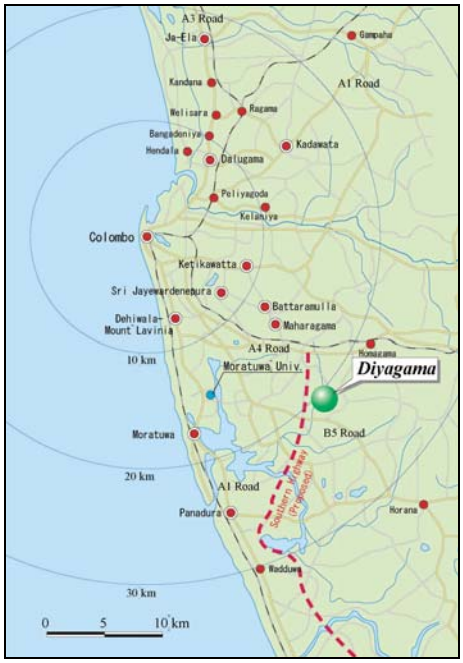
It is with great pleasure that we submit the Final Report of the Technopark Project prepared as a follow-up to the JICA Master Plan Study on Industrialization and Investment Promotion in Sri Lanka (1999-2000). The study has been completed by the joint effort of the Management and Working Groups organized by the Ministry of Enterprise Development, Industrial Policy and Investment Promotion (MEII) and our Study Team.

The follow-up study has laid out a definite plan for the implementation of the Technopark in the Greater Colombo area. It is proposed that the Technopark be developed as a flagship project to make the IT-related industry a driving force for economic growth, a generator of employment and a vehicle for poverty reduction. The proposed plan was evaluated and found to be technically sound and financially viable as long as it is well managed. It is therefore recommended that the Technopark be realized to serve as a saucer of domestic and foreign investment that is expected to boom after the conclusion of the peace agreement.

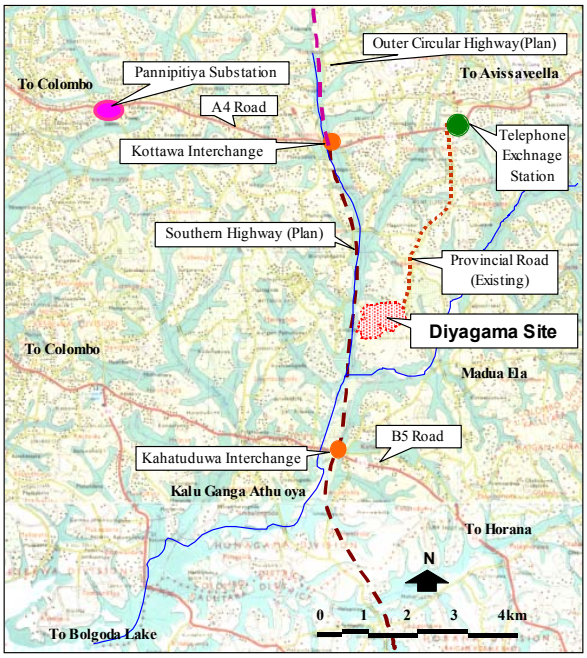
Our Study Team would like to take this opportunity to express its heartfelt gratitude for the kind cooperation extended by MEII and all other parties concerned in Sri Lanka. This Final Report is the result of excellent collaboration of all participants in the Study.

H. Koizumi

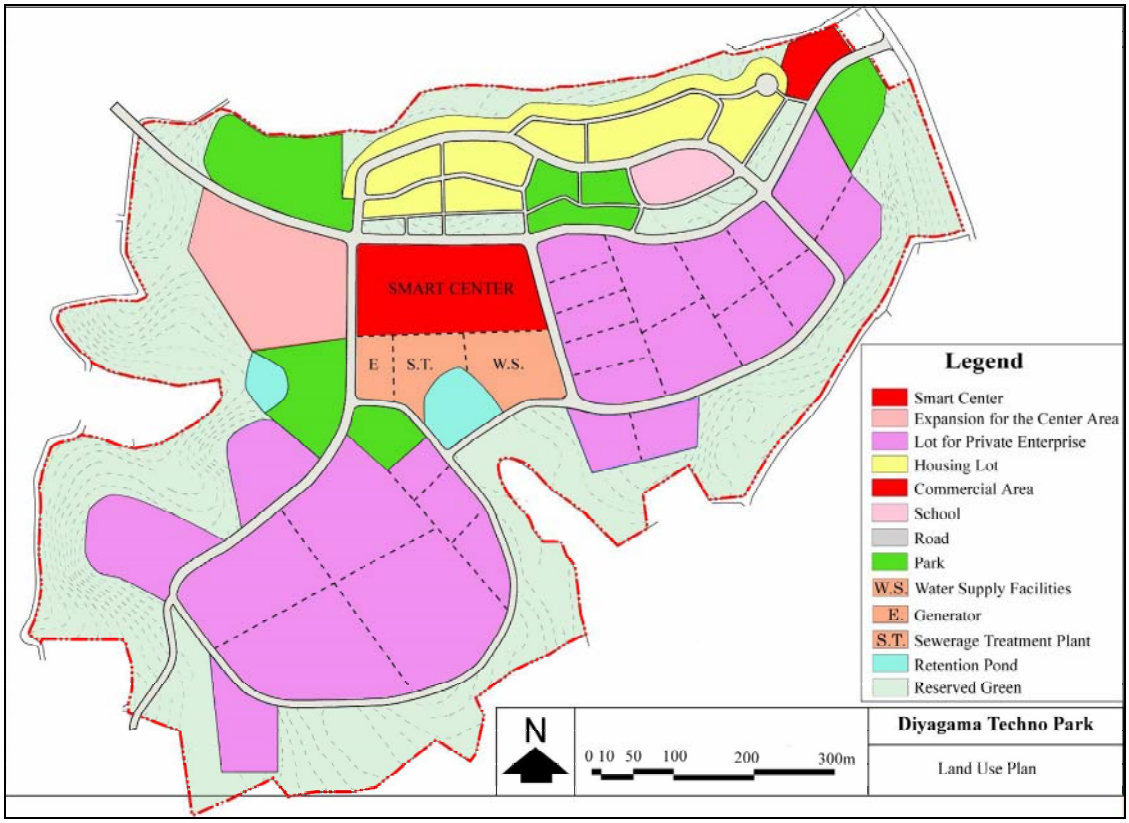
Hajime Koizumi
Study Team Leader



Location of Diyagama Technopark



Infrastructure around Diyagama



Land Use Plan of Diyagama Technopark

SUMMARY

01 The Master Plan Study for Industrialization and Investment Promotion in Sri Lanka, conducted by JICA in 1999-2000, recommended various strategies and programs for industrial sector development of the country towards the year 2010. Development of a Technopark was one of the programs recommended to promote IT-related industry, which is considered to be a driving force of the national economy and foremost among national industrialization strategies. This follow-up study has been executed to work out a definite plan for the implementation of the Technopark in the Greater Colombo area. (Refer to Chapter I)

02 The IT-related industry in Sri Lanka has some strengths and weaknesses in its promotion. The availability of an educated and low-wage work force, the cultural environment, physical incentives offered to investors, and the open market policy adopted by the country are attractive for the promotion of the IT-related industry. On the contrary, unstable power supply and inadequate infrastructure, a lack of industrial integration, and a shortage of talented IT professionals are major constraints to the IT-related industry. The proposed Technopark is designed to break through these constraints and enable the IT-related industry to lead the economic development of Sri Lanka in the first decade of the 21st century. (Refer to Chapter II)

03 The objectives of the Technopark development are defined to realize a "flagship project" in order to make the IT-related industry a driving force for economic growth, a generator of employment, and a vehicle for poverty reduction. Under the global economy, the Technopark should be designed to enhance collective efficiency and competitiveness of IT-related industries. The facilities and services to be provided in the Technopark should be of a global standard. (Refer to Chapter III)

04 The Technopark is designed to integrate three functions; i.e. (i) a central function called the SMART Center, (ii) a site for location of the IT software industry, and (iii) a site for location of the IT hardware industry. The SMART Center will serve not only for the management and network operations of the Technopark but also for the operation of a virtual

university, training and retraining of IT instructors and professionals, IT research and development (R&D), and the promotion of incubation to support SMEs in IT business. The SMART Center, in this context, has some public functions. The industrial lots in the Technopark will accommodate IT software industries and IT hardware (electric/electronic) industries to be established by domestic and foreign investors. (Refer to Chapter IV)

05 Actual demand for industrial location in the proposed Technopark is to some extent uncertain, as the impacts of the prolonged ethnic conflict on domestic and foreign investors have been significant. However, a questionnaire survey executed in Sri Lanka, south India, Malaysia and Singapore, indicated that there is some latent demand for locating IT-related industries in the Technopark on a moderate scale. The survey predicts that around 17 enterprises would invest in the IT software and hardware industry under the current situation. Further, it is expected that demands would certainly expand when a peace agreement is reached to settle the prolonged ethnic conflict. Consequently, the Technopark is designed for stage-wise implementation. (Refer to Chapter V)

06 Four alternative sites (i.e., Dampe, Regidale, Diyagama, and Ja-ela-Ekara) were evaluated for location of the Technopark, with the Diyagama site being selected as the preferred site. The Diyagama site offers a sizable state-owned land (64 ha or 158 acres, formerly used by SLBC) without any settlement therein, as well as easy access to existing transportation networks. As it is located beside the Southern Highway, access will be drastically improved after the completion of the Highway. The Diyagama Technopark will require some improvement in infrastructure; e.g., 6 km of power transmission line and 4.5 km of optic fiber telecommunications cable. (Refer to Chapter VI) According to the initial environmental examination (IEE), the Diyagama site has the least impact on the natural and social environment, and any negative impacts can be mitigated adequately. (Refer to Chapter 10.1)

07 The land use plan in the Diyagama Technopark is proposed on the basis of the natural and environmental conditions, as well as the access conditions. At the initial stage (Phase 1), about 34 ha of land will be developed for the SMART Center, software industry area, hardware industry area, residential area and green area, as shown in the following Table S.1. (Refer to Chapter VII)

Table S.1 Land Use Plan for Diyagama Technopark

Land Use Item		Land Area (ha)			Land Area (Acres)			(%)
		Phase 1	Phase 2	Total	Phase 1	Phase 2	Total	Total
1	Center Area	2.60	2.60	5.20	6.4	6.4	12.8	8.1
2	Software Industry Area	3.63	4.29	7.92	9.0	10.6	19.6	12.3
3	Hardware Industry Area	4.24	7.25	11.49	10.5	17.9	28.4	17.9
4	Residential Area	7.42	1.60	9.02	18.3	4.0	22.3	14.1
5	Infrastructure & Facility	5.77	3.73	9.50	14.2	9.2	23.5	14.8
6	Reserved Green	10.00	11.05	21.05	24.7	27.3	52.0	32.8
7	Total	33.66	30.52	64.18	83.1	75.3	158.4	100.0

08 The SMART Center will have a total floor area of about 6,400 square meters, and it will be equipped with the facilities required for network operations in and outside the Technopark, data center, virtual university, training and retraining of IT professionals, and incubation to support SMEs. For instance, the network operation and virtual university of the SMART Center will be structure as illustrated below. (Refer to Chapters IV and VIII)

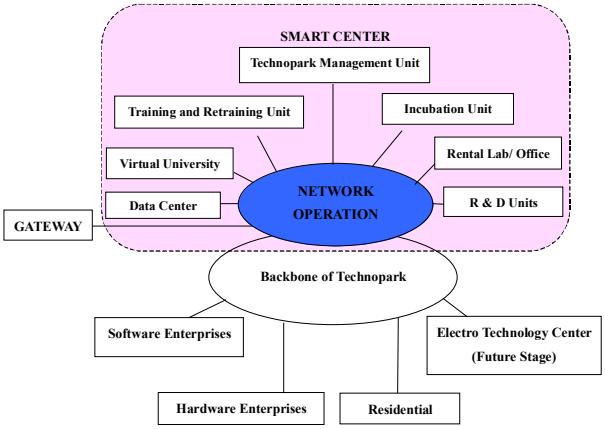


Figure S-1 SMART Center and Network Operations

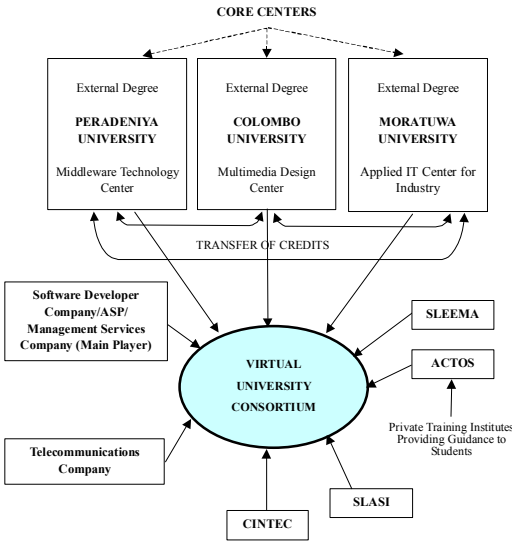


Figure S-2 Conceptual Plan of Virtual University

09 The layout of external and internal infrastructure has been prepared for the Technopark. The external roads will include the improvement of Kottawa-Horana road in Phase 1 and construction of an interchange on the Southern Highway in Phase 2. A water supply and sewerage system will be designed with a capacity of about 500 cubic meters per day in Phase 1 and Phase 2, respectively. The electric power system is designed for the supply capacity of 4.0 MW in Phase 1 and Phase 2, respectively. Hydrogen power generation is proposed for the stand-by power supply. The optic fiber cable of STM-1 (156 Mbs) is

extended from the existing Homagama station (6 km) and in the Technopark compound. (Refer to Chapter VIII) The construction of these facilities will require a period of about two years including the design and tendering period. In the event that the financial arrangements are made in 2002, the construction work will be completed by the end of 2004 and the Technopark would be put into service from early 2005. (Refer to Chapter 9.1)

10 Three alternatives for the Technopark management systems were evaluated. It is recommended that BOI construct, operate and manage the facilities, with the private sector actively involved in the operation and management of the SMART Center and internal infrastructure. For the management of the SMART Center, it is also recommended that a joint venture (or a Special Purpose Company: SPC) be formed by BOI together with a strategic partner that might be a global IT company. BOI or the SPC may then set up, if required, other joint ventures for the management of the data center, virtual university, and/or incubation center. It is emphasized that the establishment of the SPC is a key for the successful implementation of the Technopark. (Refer to Chapters 9.2 and 9.3)

11 For the Technopark construction, an investment of US$28.7 million is required for Phase 1 and US$9.1 million for Phase 2, totaling US$37.8 million. For financial arrangements, it is planned that the external infrastructure and SMART Center building, totaling US$17.7 million, be financed by official development assistance (ODA) of international financial institutions, and the Government of Sri Lanka would earmark a counterpart fund of US$4.1 million for Phase 1. BOI, on the other hand, is required to earmark a budget of US$7.0 million for private investment in the Phase 1 implementation to cover the construction of internal infrastructure and the procurement of IT equipment for the SMART Center. The investment by BOI could be covered by a commercial term loan, probably from an international bank. A provisional financial plan is envisaged as shown in Table S-2. (Refer to Chapter 9.4)

Table S-2 Provisional Financial Plan

(Units: US$ 1,000)

		Phase 1	Phase 2	Total
GOSL:	Counterpart financing for external infrastructure and the Center building	4,062	5,800	9,862
ODA:	Financing major part of external infrastructure and the Center building	17,646	0	17,646
Bank Loan:	Financing internal infrastructure and the Center IT equipment	6,992	3,300	10,292
Total		28,700	9,100	37,800

12 The investment in the proposed Technopark has been financially evaluated assuming some conditions. The return on investment (ROI) is calculated to be 11.9% if the costs and revenues are as originally estimated. ROI may be increased to 15.2% if investment cost is lowered to 80% and revenues to 90% of the original estimate. If revenues are decreased to the level of 90% of the estimate, ROI may be lowered to slightly over 10%. It is therefore concluded that the investment in the Technopark is financially viable as long as it is well managed. The risk management should focus on: (i) the selection of the strategic partner for BOI and establishment of a SPC, (ii) sound management of the SMART Center, and (iii) the management policy (including adoption of the revenue sharing system) for the virtual university and other Center functions. (Refer to Chapters 10.2 and 10.3)

13 Socially, the Technopark would create employment estimated to be around 2,000 persons in Phase 1 and 3,000 persons in Phase 2, totally about 5,000 persons. Further, the project would economically bring about gross value added (GVA) estimated to be Rs. 900 million in Phase 1 and Rs. 1,100 million in Phase 2, totally Rs. 2,000 million. Thus, the proposed Diyagama Technopark would have significant impact on the employment and the economic growth of the country.

14 Investment promotion should also be programmed to start as soon as the decision is made on the implementation of the Diyagama Technopark. The promotional activity should concentrate on specific countries (e.g., USA, UK, Australia, EU and Japan) and should make utmost use of overseas-based Sri Lankan and investment promotion agencies in developed countries (e.g., NORAD, JETRO). IT-related SMEs in developed countries are looking for outsourcing or relocation of their production base, and it is suggested that business associations organized by such SMEs be approached. Promotion of the location of satellite factories of electric/electronic enterprises overseas should also be planned. (Refer to Chapter 5.5)

15 As it was agreed that negotiations for the peace agreement would shortly start to settle the ethnic conflicts, it is the national and international expectations that the domestic and foreign investments would boom soon after the peace agreement is concluded. The proposed Technopark could be a saucer for such investments. It is therefore recommended that the necessary actions be taken immediately by the authorities concerned. This will allow the Diyagama Technopark to be implemented at the earliest possible time to serve as a saucer for domestic and foreign investments and promote industrialization and economic development for the people of Sri Lanka.

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ABBREVIATIONS

ACTOS	Association of Computer Training Organizations
ANIA	All Nippon Information Industry Association Federation
BOI	Board of Investment, Sri Lanka
BII	Bureau of Infrastructure Investment, BOI
CEB	Ceylon Electricity Board
CINTEC	Computer and Information Technology Council of Sri Lanka
EDB	Export Development Board
EIA	Environmental Impact Assessment
FDI	Foreign Direct Investment
FITIS	Federation of Information Technology Industry, Sri Lanka
FTA	Free Trade Agreement
GDP	Gross Domestic Product
GOSL	Government of Sri Lanka
GVA	Gross Value Added
ICT	Institute of Computer Technology
IEE	Initial Environmental Examination
IT	Information Technology
JBIC	Japan Bank for International Cooperation
JICA	Japan International Cooperation Agency
JETRO	Japan External Trade Organization
JV	Joint Venture
MEII	Ministry of Enterprise Development, Industrial Policy and Investment Promotion
MFA	Multi Fiber Agreement
NWSDB	National Water Supply and Drainage Board
NDB	National Development Bank
NIBM	National Institute of Business Management
NORAD	Norwegian Agency for Development
RDA	Road Development Authority
R&D	Research and Development
ROI	Return on Investment
SAARC	South Asian Association for Regional Cooperation
SAFTA	South Asia Free Trade Agreement
SAPTA	South Asia Preferential Tariff Arrangements

SLIIT	Sri Lanka Institute of Information Technology
SLASI	Sri Lanka Association for Software Industry
SLBC	Sri Lanka Broadcasting Corporation
SLCVA	Sri Lanka Computer Venders Association
SLEEMA	Sri Lanka Electrical and Electronics Manufactures Association
SME	Small and Medium Enterprise
SMI	Small and Medium Industry
SPC	Special Purpose Company
UDA	Urban Development Authority
UNIDO	United Nations Industrial Development Organization
USAID	United States Agency for International Development
WB	World Bank
WTO	World Trade Organization

Currency Equivalents
(as of March 2002)

US $ 1 = Sri Lanka Rupee 93.0
US $ 1 = Japanese Yen 135.0