

# Final Report

Agriculture Sector Modernization Project |  
Ministry of Agriculture

*Compiling a Registry / Directory of Farmer Organizations / Farmer Cooperatives / Farmer Societies / other Small Holder Organizations in operation and available service providers, including Marketers / Exporters, Technical & Business Service Providers in Sri Lanka.*

**Dr. Sampath Dharmadasa**

**Dr. Suneth Pathirana**

**Mr. Mahenthirarasa Tharsalan**

## Contents

<b>Tables</b> .....	<b>II</b>
<b>Figures</b> .....	<b>II</b>
<b>1. Introduction</b> .....	<b>1</b>
<b>2. Background Study</b> .....	<b>2</b>
2.1. Major contributors involving in the agricultural process .....	2
2.2 Interactions / interdependencies among the major stakeholders.....	5
<b>3. Methodology</b> .....	<b>7</b>
3.1. Data Collection.....	7
3.2. Data Preprocessing .....	11
<b>4. Implementation</b> .....	<b>11</b>
4.1. Design, Implementation & Optimization of the Database .....	11
4.2. Insertion of Data .....	11
4.3. Feature Integration .....	12
4.4. Hosting .....	17
<b>5. Testing &amp; Validation</b> .....	<b>17</b>
<b>6. Conclusion</b> .....	<b>17</b>
<b>7. References</b> .....	<b>18</b>

## Tables

Table 1 Support services provided to the agriculture sector by category .....	2
Table 2 Roles/ attributes of the corresponding organization or service provider.....	3
Table 3 Source of data corresponding for each category / organization .....	7
Table 4 Number of data points collected .....	10
Table 5 Percentage of completion, from data insertion point-of-view .....	11
Table 6 Features available at the user interface .....	12

## Figures

Figure 1 The interconnections among the farmer organizations and service providers.....	6
Figure 2 Key steps involved in the process .....	7
Figure 3 The user-friendly interface (the main interface) of the central database.....	12
Figure 4 Hiding / Unhiding preferred columns of the table.....	13
Figure 5 Sorting (Ascending or Descending) the dataset according to a selected column .....	14
Figure 6 Figure 6 Customizing to view the number of records per page and getting the count of records matching to the corresponding filtering criteria / search results.....	14
Figure 7 Advanced search options .....	14
Figure 8 Download data as MS Excel (Filtered Data only / Entire data table).....	14
Figure 9 Interface for Adding new Farmer Organization.....	15
Figure 10 Interface for Adding new Service Provider / New Service Category .....	15
Figure 11 Interface for Editing / Updating existing data .....	16
Figure 12 One-click access to the URLs (Websites, Social media pages, etc.) .....	16

## 1. Introduction

The Agriculture Sector Modernization Project (ASMP) aims to improve agricultural livelihoods by enhancing productivity, targeting market-oriented production (especially for export), improving value chains, and strengthening production and market infrastructure and capacity. Funded with a credit of US\$58.63 million from the World Bank (through the International Development Association) and a grant of US\$26 million from the European Union, the project includes three components:

- ✓ Agricultural Value Chain Development: Promoting commercial and export-oriented agriculture.
- ✓ Productivity Enhancement and Diversification Demonstration: Supporting farmers in producing competitive and marketable commodities, improving their ability to respond to market demands, and increasing commercialization.
- ✓ Human Resources Management and Capacity Building: Covering logistics, monitoring and evaluation, communication, and coordination of the overall project.

### **Objectives of the assignment**

In Sri Lanka, various Farmer Organizations, Societies, and Cooperatives operate under different Acts, Regulations, and Laws. Most farmers belong to these entities, which require technical, market, and business support services to function successfully. However, there was no centralized database detailing these organizations, marketers, or service providers.

Creating a registry of all farmer organizations would help service providers understand their market base and offer needed services more effectively. Additionally, establishing a directory of buyers/exporters and other technical and business service providers would enable all types of Farmer Organizations to find suitable markets and necessary support for effective operation. This consultancy assignment aimed to address this information gap in Sri Lanka's agriculture sector.

### **Tasks of the Consultancy Assignment.**

- ✓ Elaborate on a typology of farmer organizations, including farmer cooperatives, farmer societies, other smallholder organizations, and farmer companies that operate in Sri Lanka.
- ✓ Develop a registry of entities in each category of farmer organizations
- ✓ Develop a registry of buyers/exporters who operate in the agriculture sector by type
- ✓ Develop a registry of the different types of technical and business service providers in the agriculture and agribusiness sector
- ✓ Develop a user manual for directories.

The intention of compiling this Interim Report is to provide a progress update on the compilation of a comprehensive registry or directory of key agricultural organizations and service providers.

The objectives of the project, in addition to the originally stated (and listed on the TOR):

- ✓ To provide an efficient information dissemination service to the agrarian communality and their facilitators through the strengthening of linkage.
- ✓ To serve as the national repository of agriculture (central hub of agricultural information).
- ✓ To facilitate the major stakeholders to access the farmer organizations and service providers, allowing for more informed decision-making and planning in the future.
- ✓ To provide a clear direction for the next stages of the project, including further data gathering, analysis, and any adjustments.

## 2. Background Study

### 2.1. Major contributors involving in the agricultural process

Major contributors (parties) involving in different stages of the agricultural process have been identified as follow:

01. Farmer Organizations (FOs)
02. Farmer Cooperatives
03. Farmer Societies
04. Small Holder Organizations
05. Service Providers / Facilitators
  - a. Marketers and Exporters (Domestic and Foreign)
  - b. Service Providers
    - i. Single Service Provides
    - ii. Financial service providers
    - iii. General service providers
    - iv. Sector/ product specific
    - v. New business model

Table 1 Support services provided to the agriculture sector by category

Type	Examples of service provided
Single service provides	<ul style="list-style-type: none"> <li>• Fertilizer suppliers</li> <li>• Seed merchants</li> <li>• Warehousing</li> </ul> <ul style="list-style-type: none"> <li>• Millers</li> <li>• Logistics</li> <li>• Telecommunications</li> </ul>
Financial service providers	<ul style="list-style-type: none"> <li>• Savings and loan groups</li> <li>• Credit cooperatives</li> <li>• Insurance companies/ brokers</li> </ul> <ul style="list-style-type: none"> <li>• Micro- finance institutions</li> <li>• Formal banks</li> <li>• Mobile lenders</li> </ul>
General service providers	<ul style="list-style-type: none"> <li>• Intermediaries</li> <li>• Input suppliers</li> <li>• Business management</li> </ul> <ul style="list-style-type: none"> <li>• Research institutes</li> <li>• Legal services</li> <li>• Quality Assurance</li> </ul>

Sector/ product specific	<ul style="list-style-type: none"> <li>• Agricultural extension</li> <li>• Technical assistance and training</li> </ul>	<ul style="list-style-type: none"> <li>• Post harvest: storage, processing, grading, packing</li> </ul>
New business model	<ul style="list-style-type: none"> <li>• Certification services</li> <li>• Inclusive chain – service support</li> </ul>	

Source: Ferris et al., (2013)

Table 2 is to abstract the distinct roles / attributes of the corresponding organization or service provider.

Table 2 Roles/ attributes of the corresponding organization or service provider

<b>Organization</b>	<b>Attributes</b>	<b>Key Responsibilities</b>
Farmer Organizations (FOs)	<ul style="list-style-type: none"> <li>• A group of farmers from a specific region, focused on improving agricultural productivity, resource management, and community welfare.</li> <li>• Often registered under the Ministry of Agriculture, specially under Department of Agrarian Development and operate at the village, district, or provincial level.</li> </ul>	<ul style="list-style-type: none"> <li>• Representation of farmers' issues in front of local authorities and government entities.</li> <li>• Irrigation management</li> <li>• Marketing of produce</li> </ul>
Farmer Cooperatives	<ul style="list-style-type: none"> <li>• More formal and structured entities compared to FOs, often functioning as legally registered entities.</li> <li>• Governed by a board, with elected representatives overseeing operations. Cooperatives often operate under specific economic models, with each member having a share in profits and decision making.</li> </ul>	<ul style="list-style-type: none"> <li>• Collective bargaining for inputs (fertilizers, seeds), marketing, access to machinery, and securing favourable rates for crop sales.</li> <li>• Enable small farmers to pool their resources for joint purchases, shared marketing, and accessing credit at favourable rates.</li> <li>• Empower farmers to gain better prices for their products through collective marketing.</li> </ul>
Farmer Societies	<ul style="list-style-type: none"> <li>• Usually smaller, informal groups of farmers who join together for specific purposes such as sharing knowledge, addressing</li> </ul>	<ul style="list-style-type: none"> <li>• Training</li> <li>• Joint marketing initiatives</li> </ul>

	<p>localized agricultural issues, and organizing community-based farming activities.</p> <ul style="list-style-type: none"> <li>• Often focus on traditional crops or specific farming techniques.</li> <li>• Informal groups often formed around a single crop (e.g., Paddy Farmer Societies, Tea Smallholder Societies).</li> </ul>	<ul style="list-style-type: none"> <li>• Community-driven problem solving.</li> </ul>
Small Holder Organizations	<ul style="list-style-type: none"> <li>• Individual small-scale farmers who come together for mutual benefits.</li> <li>• Often part of larger federations like the Sri Lanka National Federation of Tea Smallholders or organized into geographically specific groups (e.g., Rubber Smallholders).</li> <li>• Essential in sectors such as tea, rubber, or spice farming, where small plots are the norm.</li> </ul>	<ul style="list-style-type: none"> <li>• Joint marketing and sales</li> <li>• Credit access</li> <li>• Technology sharing</li> <li>• Collective bargaining with exporters and marketers.</li> </ul>
<b>Service Providers for Farmer Organizations</b>		
Marketers/Exporters (Domestic and Foreign)	<ul style="list-style-type: none"> <li>• Essential in helping farmer groups get better market rates, often driving price negotiations and ensuring quality standards.</li> <li>• Often work closely with farmer organizations through government programs</li> </ul>	<ul style="list-style-type: none"> <li>• Buy agricultural products and manage distribution, both locally and for export markets.</li> </ul>
Technical Service Providers	<ul style="list-style-type: none"> <li>• Agricultural Chemicals, Equipment and supplies, Seeds &amp; chemicals and products</li> <li>• Comprised of: <ul style="list-style-type: none"> <li>o Private Agri-Tech Companies</li> <li>o Government Research Institutes</li> </ul> </li> <li>• Other government institutes: <ul style="list-style-type: none"> <li>- Sri Lanka Council for Agricultural Research Policy (SLCARP) for crop management</li> <li>- National Institute of Post Harvest Management (NIPHM)</li> <li>- Department of Agriculture <ul style="list-style-type: none"> <li>o SL - GAP Certification Division</li> </ul> </li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>• Supply advanced knowledge, technology, and equipment that helps farmer organizations modernize and improve yields.</li> </ul>

	<ul style="list-style-type: none"> <li>○ Seed Certification Service</li> <li>○ Agri Business Counselling Unit</li> </ul>	
Business Service Providers	<ul style="list-style-type: none"> <li>● Business services range from financial products, such as credit and insurance, to market access and export facilitation.</li> </ul>	<ul style="list-style-type: none"> <li>● Ensuring farmer groups and cooperatives can scale and sustain operations.</li> </ul>
NGOs and Charities	<ul style="list-style-type: none"> <li>● Independent, non-profit, and voluntary organizations driven by specific missions to provide services, advocate for causes, uphold transparency, and fill gaps left by government programs.</li> </ul>	<ul style="list-style-type: none"> <li>● Running capacity-building programs for business management, export readiness, and market connections.</li> </ul>

## 2.2 Interactions / interdependencies among the major stakeholders

The followings have been identified as the strategies adopted to establish the collaborations between the farmer organizations and service providers.

1. Contract Farming
2. Public-Private Partnerships (PPP)
3. Out-grower Schemes
4. Industry Collaboration Platforms and Forums
5. NGOs and Development Organization Projects
6. Government Programs and Projects
7. Farmer Federations and Large-Scale Corporations

Figure 1, is to elaborate the interconnections among the farmer organizations and service providers including private sector, government institutions and NGO's.

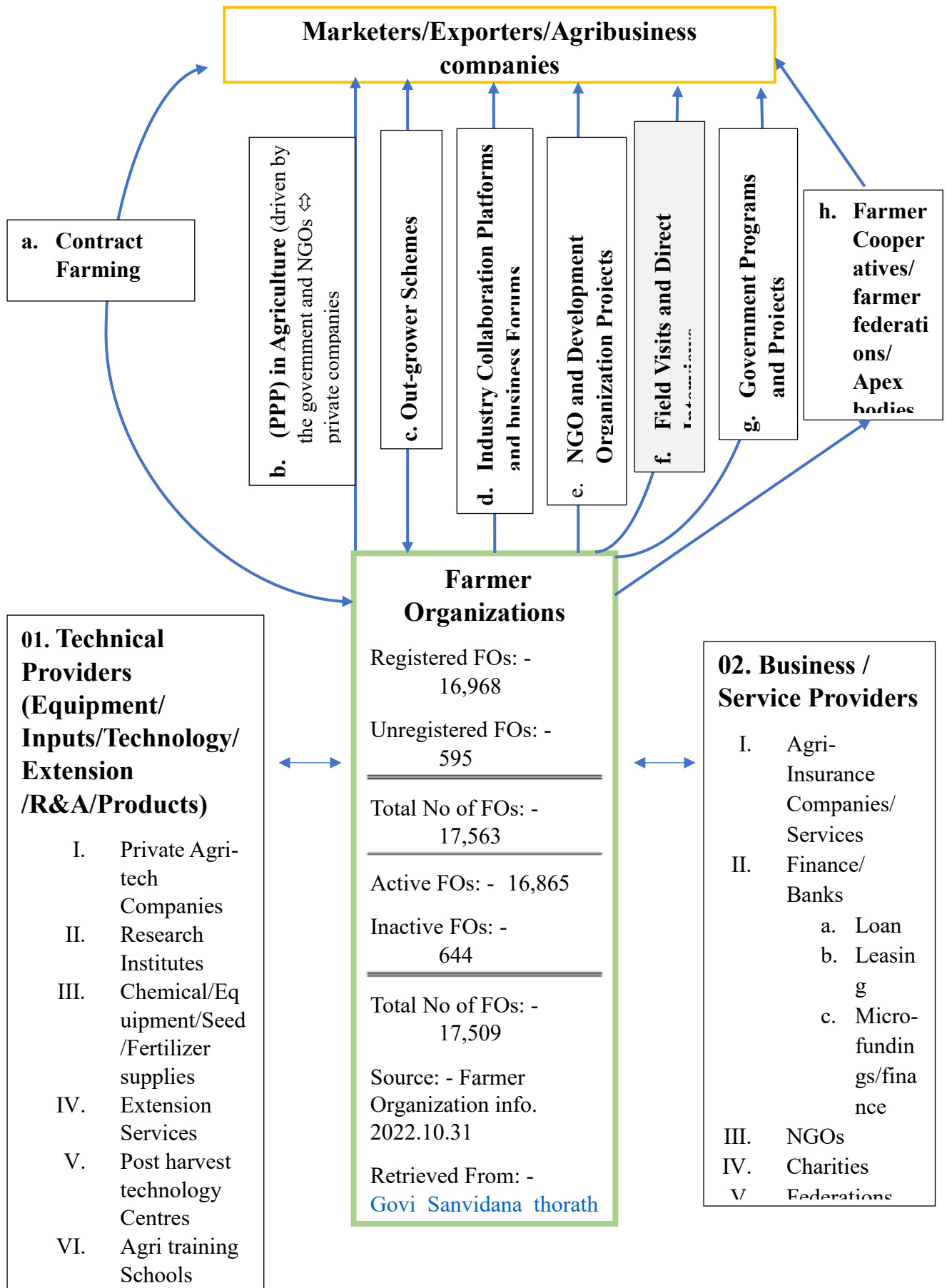


Figure 1 The interconnections among the farmer organizations and service providers



### 3. Methodology

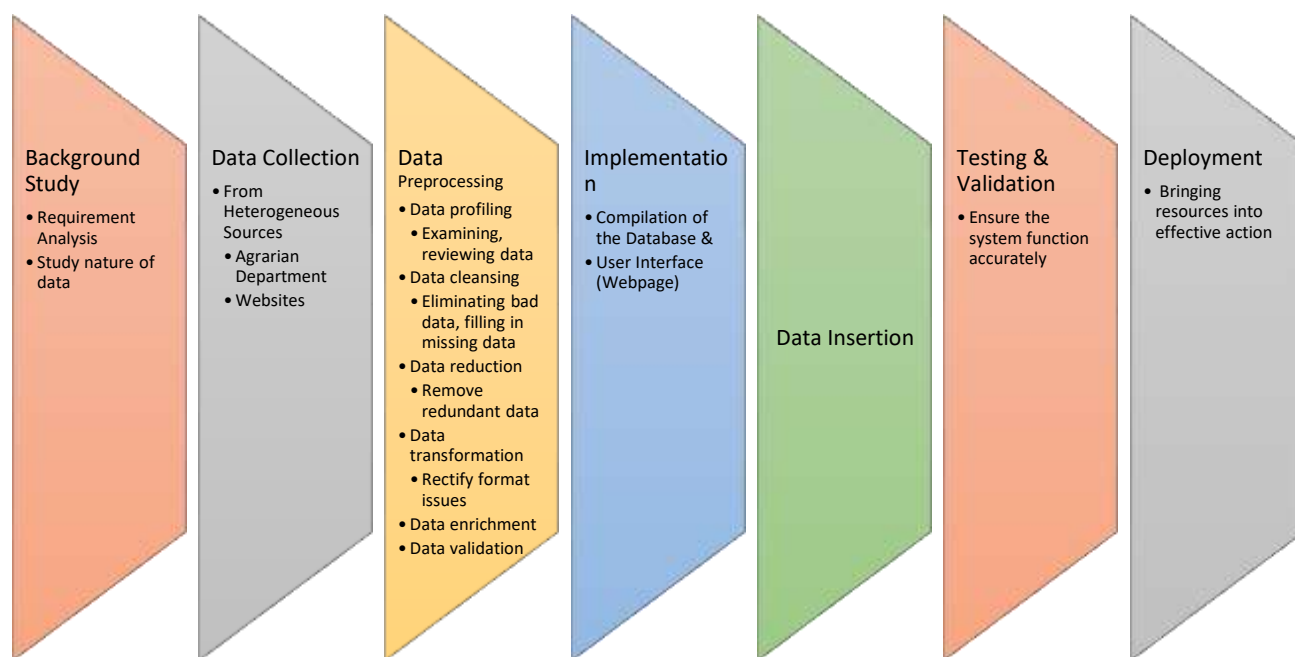


Figure 2 Key steps involved in the process

#### 3.1. Data Collection

According to (Agrarian Dept, 2022), 16,968 Farmer Organizations have been registered, while another 595 have not registered, totalling to 17,563. But, by 2022 October, only 16,865 were active. However, those statistics is only regarding the Farmer Organizations and the actual count of data points to be collected cannot be predicted exactly.

The source of data corresponding for each category / organization have been identified as Table 3 below.

Table 3 Source of data corresponding for each category / organization

Organization	Data Source, i.e. website
Farmer Organizations (FOs)	<a href="http://agrariandep.gov.lk">Department of Agrarian Development (agrariandep.gov.lk)</a>
Farmer Cooperatives	<a href="http://agrariandep.gov.lk">Department of Agrarian Development (agrariandep.gov.lk)</a>
Farmer Societies	ETC-young farmers club ( <a href="https://doa.gov.lk/etc-young-farmers-club/">https://doa.gov.lk/etc-young-farmers-club/</a> ) Oxfam Digital Repository Green Agro Society Lanka Ltd.
Small Holder Organizations	Tea Small Holdings Development Authority (TSHDA) <a href="http://tshda.lk">Tea Small Holdings Development Authority - (tshda.lk)</a> Rubber Development Department <a href="http://rubberdev.gov.lk">Home (rubberdev.gov.lk)</a> <a href="http://srilankabusiness.com">Export Pure Ceylon Tea from Sri Lanka - EDB Sri Lanka (srilankabusiness.com)</a>

---

Service Providers for Farmer  
Organizations: Marketers/Exporters

Sri Lanka Export Development Board  
(<https://www.srilankabusiness.com/>), which has an exporter directory  
Ceylon Chamber of Commerce (<https://www.chamber.lk/>)  
The Spice Council - [Sri Lanka Spices](#)  
Lanka Fruit & Vegetable Producers, Processors and Exporters Association - [Lanka Fruit & Vegetable Producers, Processors and Exporters Association \(LFVPPEA\)](#)  
Sri Lanka Agripreneurs Forum (SLAF)  
The Coconut Development Authority (CDA - [Coconut Development Authority - cda.gov.lk](#))

---

Technical Service Providers

Brown & Company PLC  
CIC Holdings PLC  
AgStar PLC  
Aggregate Acres  
Amiron Organics  
Bio Foods (Pvt.) Ltd  
CEYLON GRAIN ELEVATORS PLC  
Biyo Natural (Pvt) Ltd.  
Dei Gratia Agritech Pvt Ltd  
GOVIYOO  
NAWARA AGRO  
Greensoils  
Globe Green Agro Pvt Ltd  
Venturegreens  
Modern Agri (Pvt) Ltd  
Hayleys Agriculture  
HydroCoir Ltd.  
Lanka Agri Produce Management Corporation  
Lanka Coco Products (Pvt) Ltd  
Lanka Elite Agro  
Lanka Sugar Company Private Limited  
NAVA Agriculture  
Pintanna Plantations Pvt Ltd  
Golden Grow Holdings  
Ralahami  
Randeepa Agrarian (Pvt) Limited  
Rural Returns (Guarantee) Limited  
Senzagro Pvt Ltd  
Spear International (Pvt) Ltd  
Target Agriculture (Pvt) Ltd  
Terra Chas  
Urban Agri (Pvt) Ltd  
Wild Buffalo Hill Estates  
A. Baur & Co. (Pvt.) Ltd.  
DIMO  
Agrithmics (Private) Limited

---

	<p>TESS (PVT) LTD</p> <p>Sunshine holdings plc(Watawala Plantations )</p> <p>Prima Ceylon (Private) Limited (PCL)</p> <p>Opex Holding (PVT) LTD.</p> <p>Onesh Agri</p> <p>Saradha Lanka Agro (pvt) Ltd</p> <p>Piyadasa &amp; Sons</p> <p>Green grow agriculture</p> <p>Haritha Agri</p> <p>Mahagedara Holdings</p>
Government Institutes	<p>Department of Agrarian Development (Information System for Smart Farming) - <a href="http://agrarian.lk">Information System for Smart Farming (agrarian.lk)</a></p> <p>Hector Kobbekaduwa Agrarian Research and Training Institute, Colombo - <a href="http://harti.gov.lk">Overview (harti.gov.lk)</a></p> <p><a href="#">Rubber Technology &amp; Development Department</a></p> <p>Sri Lanka Council for Agricultural Research Policy (SLCARP) for crop management - <a href="http://slcarp.lk">Sri Lanka Council for Agricultural Research Policy (slcarp.lk)</a></p> <p>National Institute of Post-Harvest Management (NIPHM) - <a href="#">NIPHM</a></p> <p>Department of Agriculture</p> <p>SL - GAP Certification Division</p> <p>Seed Certification Service</p> <p>Agri Business Counselling Unit</p>
Business Service Providers - Finance	<p>Samurdhi Bank</p> <p>Agrarian Insurance Board</p> <p>Financial institutions with specific agricultural products i.e. SANASA, Commercial Bank Agri-loans</p> <p>National Agribusiness Development Programme (NADeP)</p> <p>Ministry of Finance</p>
NGOs and Charities running capacity-building programs	<p><a href="#">Practical Action Sri Lanka</a></p> <p>Oxfam in Asia</p> <p>Sarvodaya</p> <p>World Vision Lanka</p> <p>Caritas Sri Lanka</p> <p>International Fund for Agricultural Development (IFAD)</p> <p>United States Agency for International Development</p> <p>FAO in Sri Lanka</p> <p>Sri Lankan Key Foundation</p> <p>SLYCAN Trust</p> <p>Global Ehsan Relief - Sri Lanka</p> <p>Avanka Lanka Foundation</p> <p>World Food Programme /Sri lanka</p> <p>CropLife Sri Lanka</p> <p>Janathakshan</p>

Table 4 below is to specify the number of data points collected up to now.

Table 4 Number of data points collected

Category	District	No. of Data Points	Sub Total
Farmer Organizations (FOs)	Colombo	314	
	Ganpaha	998	
	Kaluthara	595	
	Kandy	1,150	
	Matale	568	
	Nuwaraeliya	534	
	Galle	695	
	Matara	543	
	Hambanthota	652	
	Jaffna	278	
	Mannar	181	
	Vavuniya	249	
	Mulathivu	174	
	Batticaloa	316	
	Ampara	614	
	Trincomalee	352	
	Kurunegala	2,504	
	Puttalam	752	
	Anuradhapura	1,569	
	Polonnaruwa	485	
Badulla	741		
Monaragala	576		
Rathnapura	628		
Kegalle	529	15,997	
Farmer Cooperatives		03	
Farmer Societies		01	
Smallholders		00	
Fruit & Vegetable Producers, Processors and Exporters		63	
Export Statistics from Sri Lanka Export Development Board		802	
NGO's		15	
Agricultural Service Providers (Government & Private)		77	
Agri-finance Service Providers		61	
<b>Total</b>		<b>16,999</b>	<b>16,999</b>

### 3.2. Data Preprocessing

Since data will be extracted from heterogeneous (diversified) sources, it is obvious to encounter incompatibility issues when attempt to integrate (insert into a single database) them.

Hence, it may require to follow the standard procedures in data preprocessing (Lawton, 2024) to standardize the data while resolving incomplete data issues, removing outliers, etc. leading to eliminate inconsistencies.

Details of the Farmer Organizations (FOs) were originally recorded in Sinhalese and Tamil (the native languages in Sri Lanka). They needed to be translated to English.

## 4. Implementation

### 4.1. Design, Implementation & Optimization of the Database

All the key steps involved in database development i.e.;

- Architectural design
  - Including optimizations to minimize data redundancies and inconsistencies
- Implementation and
- Testing and validation of the database with sample data have been successfully completed.

### 4.2. Insertion of Data

Table 5 is to summarize the percentage of completion of the project, from the data insertion perspective.

Table 5 Percentage of completion, from data insertion point-of-view

Category	Data Received	Data Inserted	Completion %	Reason for delay
Farmer Organizations (FOs)	15,997	15,997	100%	N/A
Farmer Cooperatives	03	03	100%	N/A
Farmer Societies	59	01	1.7%	Delay with data holder
Smallholders	Working On	Working On	pending	Delay with data holder
Fruit & Vegetable Producers, Processors and Exporters	63	63	100%	N/A
Export Statistics from Sri Lanka Export Development Board	802	802	100%	N/A
NGO's	15	15	100%	N/A
Agricultural Service Providers (Private)	51	51	100%	N/A

Agricultural Service Providers (Government)	26	26	100%	N/A
Agri - Finance Service providers	61	61	100%	N/A
<b>Overall</b>	<b>17,057</b>	<b>16,999</b>	<b>99.6%</b>	

### 4.3. Feature Integration

Figure 3 illustrates the user-friendly interface (the main interface) of the central database to host agricultural data.

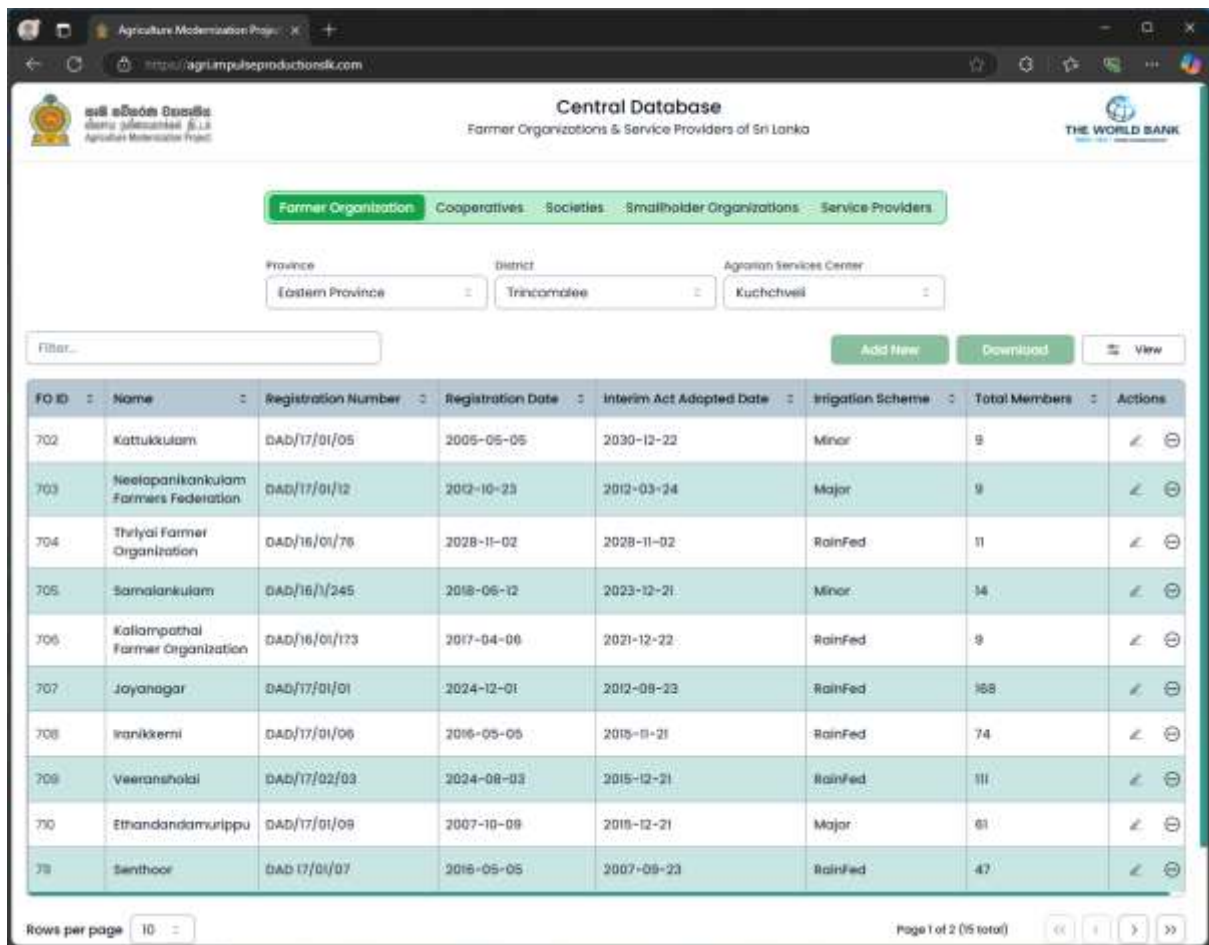


Figure 3 The user-friendly interface (the main interface) of the central database

The following features (please refer to Table 6) have been already implemented or planning to integrate.

Table 6 Features available at the user interface

#	Feature	Implemented / Pending	Reference* (within this document)
1	Easy navigation – Toggle between the FOs-Farmer Societies-Service Providers, etc. with dedicated tabs.	✓	Figure 3
2	Filter (FOs) by the Province, District and Agrarian Service Center	✓	Figure 3

3	Further customized table columns – Enabling to hide/unhide non-important (depending upon the context / requirement) columns to reduce the complexity of presentation	✓	Figure 4
4	Arranging (Sorting: Ascending or Descending) the dataset according to a selected column easily	✓	Figure 5
5	Customizing to view the number of records per page and getting the count of records matching to the corresponding filtering criteria / search results	✓	Figure 6
6	Advanced search options	✓	Figure 7
7	Download data as MS Excel – Download the prepared dataset (simplified data tables using filtering, sorting or search options) in the formats of MS Excel / PDF for purpose of printing or sharing electronically.	✓	Figure 8
8	Manually inserting data using a user-friendly interface (using Add New Button)	✓	Figure 9, Figure 10
9	Editing existing data using a user-friendly interface	✓	Figure 11
10	Direct (one-click) access to the URLs (Websites, Social media pages, etc.) through the user interface, whenever available	✓	Figure 12

\* Please refer to the screenshots attached below for details.

The screenshot shows a web application interface for a 'Central Database' of Farmer Organizations. The table displays the following data:

FO ID	Name	Agrarian Services Center	Registration Number	Registration Date	Irrigation Scheme	Total Members
702	Kattukkulam	Kuchchveli	DAD/17/01/05	2005-05-05	Minor	9
703	Neelapanankulam Farmers Federation	Kuchchveli	DAD/17/01/12	2012-10-23	Major	9
704	Thiryal Farmer Organization	Kuchchveli	DAD/16/01/76	2028-11-02	RainFed	11
705	Samalankulam	Kuchchveli	DAD/16/1/245	2018-05-12	Minor	14
706	Kallampathal Farmer Organization	Kuchchveli	DAD/16/01/173	2017-04-06	RainFed	9
707	Jayanagar	Kuchchveli	DAD/17/01/01	2024-12-01	RainFed	168
708	Iranikkerni	Kuchchveli	DAD/17/01/06	2018-05-05	RainFed	74
709	Veeransholai	Kuchchveli	DAD/17/02/03	2024-08-03	RainFed	111
710	Ethandandamurippu	Kuchchveli	DAD/17/01/09	2007-10-09	Major	61
711	Santhoor	Kuchchveli	DAD/17/01/07	2016-05-05	RainFed	47

The 'Toggle columns' sidebar on the right shows the following columns are visible (checked):

- id
- Name
- Agrarian Ser...
- Registration ...
- Registration ...
- Interim Act ...
- Irrigation Sc...
- Total Memb...

Figure 4 Hiding / Unhiding preferred columns of the table

FO ID	Name	Registration Number	Registration Date	Irrigation Scheme	Total Members
1369	Govisanvidanaya	DI/16/01/02	2018-01-02	Major	148
1370	Govisanvidanaya	DI/16/01/03	2018-01-02	Major	231
1371	G 13-14-16 Govisanvidanaya	DI/16/01/04	2005-01-02	Major	205

Figure 5 Sorting (Ascending or Descending) the dataset according to a selected column

Rows per page  Page 1 of 3 (22 total) << < > >>

Figure 6 Customizing to view the number of records per page and getting the count of records matching to the corresponding filtering criteria / search results

The screenshot shows the 'Central Database' interface for Farmer Organizations & Service Providers of Sri Lanka. A search for 'ngo' is performed, resulting in a table of 4 records. The table columns are Name, Address, Category, Email, Phone, Fax, Website, Social Media, and Actions. The records listed are:

Name	Address	Category	Email	Phone	Fax	Website	Social Media	Actions
World Vision Lanka	No. 619/A, Dr. Danister De Silva Mawatha, Colombo 09, Sri Lanka.	ngo	srilanka@wvl.org	+9410269233 +9410269234 +94102697980	+94102697577	https://www.wvl.org/srilanka	https://www.linkedin.com/co..	✎ ⌵
United States Agency for International Development	No. 210, Galle Road, Colombo 3, Sri Lanka.	ngo	info@usaid.gov	+9410496000	N/A	https://www.usaid.gov/sr-ls..	https://www.facebook.com/us..	✎ ⌵
United States Agency for International Development	No. 210, Galle Road, Colombo 3, Sri Lanka.	ngo	info@usaid.gov	+9410496000	N/A	https://www.usaid.gov/sr-ls..	https://www.facebook.com/us..	✎ ⌵
International Fund for Agricultural Development (IFAD)	Via Piyasiri Dones, 44, 80142 Rames, IFAD	ngo	ifad@ifad.org	+390654001	N/A	https://www.ifad.org/en/n/c..	https://www.linkedin.com/co..	✎ ⌵

Figure 7 Advanced search options

The screenshot shows a dropdown menu for 'Download as Excel' with two options: 'All Data' and 'Filtered Data'. The background shows a table with columns for 'Total M' and 'Actions', with values 85 and 55 respectively.

Figure 8 Download data as MS Excel (Filtered Data only / Entire data table)



### Add new farmer organization ✕

Fill in the form below to add a new farmer organization to the system.

<p><b>District *</b></p> <input type="text" value="Select District"/>	<p><b>Select Agrarian Services Center *</b></p> <input type="text" value="Select center"/>
<p><b>Name *</b></p> <input type="text" value="Enter name"/>	<p><b>Agricultural Research Production Assistant Unit *</b></p> <input type="text" value="Enter agricultural research production assistant unit"/>
<p><b>Registration Number *</b></p> <input type="text" value="Enter registration number"/>	<p><b>Registration Date</b></p> <input type="text" value="Pick a date"/>
<p><b>Interim Act Adopted Date</b></p> <input type="text" value="Pick a date"/>	<p><b>Irrigation Scheme</b></p> <input type="text" value="Enter irrigation scheme"/>
<p><b>Other Irrigation Schemes</b></p> <input type="text" value="Enter other irrigation schemes"/>	<p><b>Total Members</b></p> <input type="text" value="0"/>
<p><b>Last General Meeting Date</b></p> <input type="text" value="Pick a date"/>	<p><b>Last Committee Meeting Date</b></p> <input type="text" value="Pick a date"/>
<p><b>General Meeting Book Maintained ?</b></p> <p><input type="radio"/> Yes</p> <p><input checked="" type="radio"/> No</p>	<p><b>Committee Meeting Book Maintained ?</b></p> <p><input type="radio"/> Yes</p> <p><input checked="" type="radio"/> No</p>
<p><b>Membership Money Accrued ?</b></p> <p><input type="radio"/> Yes</p> <p><input checked="" type="radio"/> No</p>	<p><b>Membership List Maintained ?</b></p> <p><input type="radio"/> Yes</p> <p><input checked="" type="radio"/> No</p>

Figure 9 Interface for Adding new Farmer Organization

### Add new service provider ✕

Fill in the form below to add a new service provider to the system.

<p><b>Name *</b></p> <input type="text" value="Enter name"/>	<p><b>Address</b></p> <input type="text" value="Enter address"/>
<p><b>Category *</b></p> <input type="text" value="NGO"/>	<p><b>Products or Services</b></p> <input type="text" value="+ Add Products or Services"/>
<p><b>Phone</b></p> <input type="text" value="+ Add Phone"/>	<p><b>Fax</b></p> <input type="text" value="+ Add Fax"/>
<p><b>Email</b></p> <input type="text" value="+ Add Email"/>	<p><b>Website</b></p> <input type="text" value="+ Add Website"/>
<p><b>Social Media</b></p> <input type="text" value="+ Add Social Media"/>	

Figure 10 Interface for Adding new Service Provider / New Service Category

**Actions**  
✎
⋮

↓

**Name \***

**Address**

**Category \***

**Products or Services**

✖

✖

✖

✖

✖

**Phone**

✖

✖

+ Add Phone

**Fax**

+ Add Fax

**Email**

✖

+ Add Email

**Website**

✖

+ Add Website

**Social Media**

✖

+ Add Social Media

Update Service Provider

Figure 11 Interface for Editing / Updating existing data

Add New
Download

Name	Address	Category	Email	Phone	Fax	Website	Social Media
World Vision Lanka	No. 619/8, Dr. Danister De Silva Mawatha, Colombe 09, Sri Lanka.	Ngo	srilanka@wvl.org	+94112691233 +94112691234 +94112687980	+94112697577	<a href="https://www.wvl.org/srilanka">https://www.wvl.org/srilanka</a>	<a href="https://www.linkedin.com/co...">https://www.linkedin.com/co...</a>

Figure 12 One-click access to the URLs (Websites, Social media pages, etc.)

#### 4.4. Hosting

It is worth to emphasize the fact, the database is currently hosted on a personal space and redirected referring to a private domain (slnr.lk), only for the purpose of data insertion, testing and validation. If necessary, the database and the front-end (web page consists of the user interface) may require to be hosted on a paid service, borrowed space from the agrarian department or installed on a local machine.

It is strongly recommended to host the database in a paid service / on a server owned by the Agrarian Department, since availability of a central database is often beneficial.

The other advantages of hosting the database:

- 24 x 7 Availability of data.
  - 99.9 % up time is guaranteed if hosted on a reliable server.
- Anywhere, Any Device
  - Connect to the central database using any device (including mobile devices), staying anywhere.
- Assured data integrity and consistency
  - Any modifications (adding new data / update existing) performed on data are effective globally rather than locally.
  - If you maintain multiple copies of the database on local machines, as offline applications, this will never be achieved.
  - You have to add / update all the individual copies of databases installed on local machines.
- No single point failure (less vulnerability)
  - If you have installed the database on a local machine, and if the machine starts malfunctioning, the data and all related services will not be available anymore until you repair the machine and recover the data.
  - Recovering the data again cannot be guaranteed, if the storage devices are severely affected (damaged).

Hence, it is recommended to migrate the database to an appropriate space as soon as possible.

#### 5. Testing & Validation

Testing & Validation and ensuring the consistency of data are performed concurrently to the data insertion utilizing standard and recommended techniques procedures practiced in software engineering.

#### 6. Conclusion

The completed activities are well aligned to the initially premeditated workflows and the essential feature integration is complete. The initially defined project objectives have been achieved successfully within the stipulated deadlines.

## 7. References

Agrarian Dept. (2022, October 31). Govi Sanvidana Thorathuru. Retrieved from [https://agrariandep.gov.lk/web/images/2022/2022.10.13/Govi\\_Sanvidana\\_thorathuru.pdf](https://agrariandep.gov.lk/web/images/2022/2022.10.13/Govi_Sanvidana_thorathuru.pdf)

Lawton, G. (2024, 10 22). www.techtarget.com. Retrieved from data preprocessing: <https://www.techtarget.com/searchdatamanagement/definition/data-preprocessing>

SLT Mobitel. (2024, 10 22). Hosting Services. Retrieved from <https://www.slt.lk/en/personal/internet/hosting-services/services-and-pricing>

Ferris, S., Robbins, P., Best, R., Seville, D., Buxton, A., Shriver, J., & Wei, E. (2014). Linking smallholder farmers to markets and the implications for extension and advisory services. MEAS Brief, 4(10), 13-14.