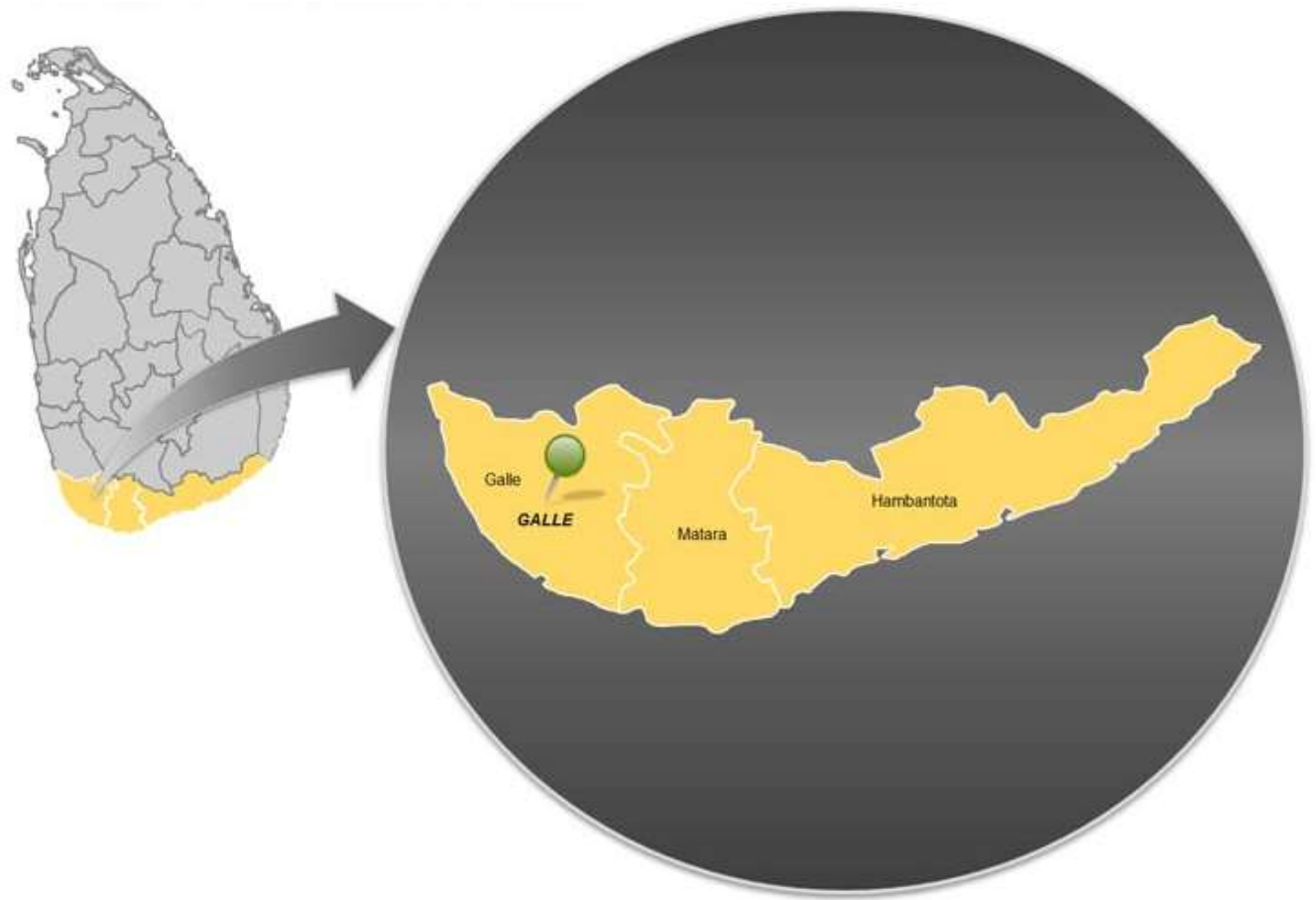


Spatial (GIS) Analysis for the Technical and Vocational Education and Training (TVET) Rationalization in Southern Province of Sri Lanka



Research Team

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March 2023

Acknowledgement

We wish to convey our sincere gratitude to Dr. K.A. Lalithadeera, the Director General of the Tertiary and Vocational Education Commission (TVEC) for the valuable support and guidance given to us in making this effort a success. Further, Research team would also like to thank the Deputy Director General and the Director (Planning and Research) for their continues guidance. Especially we would like to thank Mr. G.M.U.Ganepola, Director (IS), the Research Supervisor of the Research Steering Committee in Tertiary and Vocational Education commission (TVEC) for the invaluable guidance given to us throughout the research activities. Without proper information this research couldn't have achieved the success, therefore the research team wish to tank staff of Information System Division of TVEC. Finally, the research Team wishes to thank administrative and other staff of the TVEC for the assistance and encouragement given by them, throughout the course of this event.

Research Team

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Abstract

The research study has chiefly been focused to explore the spatial distribution of existing vocational training centers and the courses across the country and to suggest the suitable locations for the rearrangements in order to make the TVET sector training further relevant to the career progression, land use pattern and industrial demand in the southern province of Sri Lanka.

In this research study, it has been identified the spatial distribution of the vocational training centers and vocational training courses in Southern Province. Accordingly, 45% of TVET training centers that are available in the southern province conduct accredited courses. Also, most of the training centers are situated in coastal area. Considering the districts, each district has nearly same number of training centres. Some of the divisional secretariat divisions do not have at least a single vocational training institute. From the industry perspective, the demand for the craft level workers (level 03) is higher than any other levels, there is a very limited number of courses conducted for the highly demanded sectors in the district.

Also, the study has been identified the career progression pathways of trainees in the Province and here analysis has been made for the sector of Agriculture, Fishery and Hunting and under this sector there are a considerable number of training centres conduct the certificate courses and National Diploma and Higher National Diploma courses. Also with the establishment of southern expresses way the trainees travel to Colombo to follow the higher level courses.

In addition, the research study has revealed the relationship between the land use pattern and the participation of vocational training courses in the Southern Province. Considering the major industrial sectors available in Galle district such as plantation (tea cultivation), fishing and hotel (tourism) sector, there are very limited numbers of NVQ courses conducted by the vocational training centres.

Since the Matara district is very popular for plantation (tea, cinnamon, etc.), fishing (the largest fishing harbor is available in Matara) and hotel (tourism) sectors, there are very limited numbers of NVQ courses conducted by the vocational training centres.

The Hambantota district has the international airport, harbor and the Yala national park and the southern express way, there is no or very limited numbers of NVQ courses conducted by the vocational training centres. There is no any NVQ courses conducted in transport, storage and communications sector occupations up to 2022.

On the other hand, majority of the training centres in each district conduct manufacturing sector related courses.

In order to fill the gap remaining between the major industry demand and the supply made from the vocational training (relevancy and the quantity) perspective, new training centres or courses should be established in order to cater the industries.

Chapter 1

1.0 Background of the study

On the whole, Technical and Vocational Education and Training (TVET) strategy has introduced nationally to create a competent, motivated, adaptable and innovative workforce that plays key roles in the poverty reduction and socio-economic development efforts of the country. This is achieved through facilitating demand-driven, employment oriented, relevant and outcome based TVET at all levels.

The global TVET environment is becoming increasingly borderless, making quality assurance of education and qualifications. In Sri Lanka, the Ministry of Skills Development and Vocational Training governs the entire TVET system of the country.

Under the TVET system, TVEC functions as the apex body for the TVET sector of the country and maintain a credible and quality assured National Vocational Qualifications (NVQ) system. In this context, there are number of training providers attached to public, private and non-governmental sectors providing the vocational training to the TVET students.

Presently, most of the training are conducted for the NVQ certifications adhering with the requirement of the NVQ frame work that has been introduced in the year 2005. However, there is a huge mismatch prevailed between the supply of trainees against the job market demand as training providers commence new courses constantly without considering much about the existing as well as emerging demands pertinent to the available career pathways for the trainees, land use pattern and the job markets.

Therefore, it is imperative that the training process should be streamlined with the career progression of trainees and the job markets and most of the training centers and the courses are needed to be rearranged as per required.

There have been few research studies made so far in Sri Lanka with regard to the TVET sector training by means of spatial (GIS) analysis and it is intended to study the remaining system of TVET sector training prevailing in the southern province and to propose the necessary changes which are required to be adopted to the province to enhance the relevancy of the TVET training.

1.1 Objective / s

1.1.1 Broad Objective

- To explore the spatial distribution of existing vocational training centers and the courses and propose the suitable locations for the rearrangements in order to make the TVET sector training further relevant to the career progression of trainees, land use pattern and industrial demand in the southern province of Sri Lanka.

1.1.2 Specific Objectives

- To identify the spatial distribution of the vocational training center's in Southern Province
- To identify the spatial distribution of the vocational training courses in Southern Province
- To study the career progression pathways of trainees in the Southern Province
- To identify relationship between the land use pattern and participation of vocational training courses of the Southern Province
- To find out the requirements and suitable locations for the establishment of new training center's and commencement of new courses
- To recommend the courses which are really demanded at the remaining training center's

Chapter 2

Review of Literature

Under the provisions of the Tertiary and Vocational Education Act No 20 of 1990, Tertiary and Vocational Education Commission was established in 1991 as the apex body in the technical and vocational education and training (TVET) sector in the country.

According to the Tertiary and Vocational Education Act No. 20 of 1990 and the amended Act No. 50 of 1999, all vocational training centers are required to be registered with TVEC. With the introduction of NVQ framework, NVQ qualifications are issued by TVEC though accreditation of courses conducted by training centres of public, private and NGO sectors.

The Southern Province is the 7th largest province by area and is home to 2.5 million people, the 3rd most populated province. The province is bordered by Sabaragamuwa Province and Uva Province to the North, Eastern Province to the Northeast, Western Province to the Northwest and the Indian Ocean to the South, West and East.

The Southern Province is a geographic area consisting of the districts of Galle, Matara and Hambantota. Subsistence farming and fishing is the main source of income for the vast majority of the people of this region.

| District | Area | Population |
|------------|-------------------------------------|------------|
| Galle | 1,652 km ² (638 sq mi) | 1,075,000 |
| Hambantota | 2,609 km ² (1,007 sq mi) | 596,617 |
| Matara | 1,283 km ² (495 sq mi) | 831,000 |

There are 47 divisional secretariats in the Southern Province, with 19 in Galle District, 12 in Hambantota District and 16 in Matara District.

According to the labour force survey 2021, out of the total employed population, the highest share is reported from the Services sector (46.7%) and the estimated share of Agriculture and

Industries sector employment are 27.3 and 26.0 percent respectively. Southern province includes a huge number of labour force in line with the existing population.

The Southern Province also includes the wildlife sanctuaries of the Yala and Udawalawe National Parks. Ussangoda in Ambalantota is a panoramic view of the beach and the sea, and the holy city of Kataragama, and the ancient cities of Tissamaharama, Kirinda and Galle.

It is estimated that approximately more than 44481 trained personnel will be produced by 18 tourism related training institutes currently operating in the Western Province by 2015. It would represent 75% of the total trainees in 2015. In addition, Central province (6496), Southern Province (2685), Sabaragamuwa Province (1972) will also be creating a significant contribution towards manpower development for tourism industry in Sri Lanka. (*SLTDA (2011)*)

In addition, southern province significantly contributes to GDP of the country considering the fishery sector comparing to the other provinces Handbook on Fisheries statistics 2020).

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Chapter 3

3.0 Methodology

This project is based on Primary and secondary data. Location data (GPS coordinates) are the primary data and TVET centers and course details, land use, road network, administrative boundaries are the secondary data. The data collection has been made during the month of June 2022. All spatial and non-spatial data analysis have been done using ArcGIS, QGIS and MS Excel software's and Google earth Satellite images.

GIS is a useful tool for spatial analysis, overlay analysis and network analysis therefore the project objectives can be easily archived using this tool.

3.1 Diagram of methodology

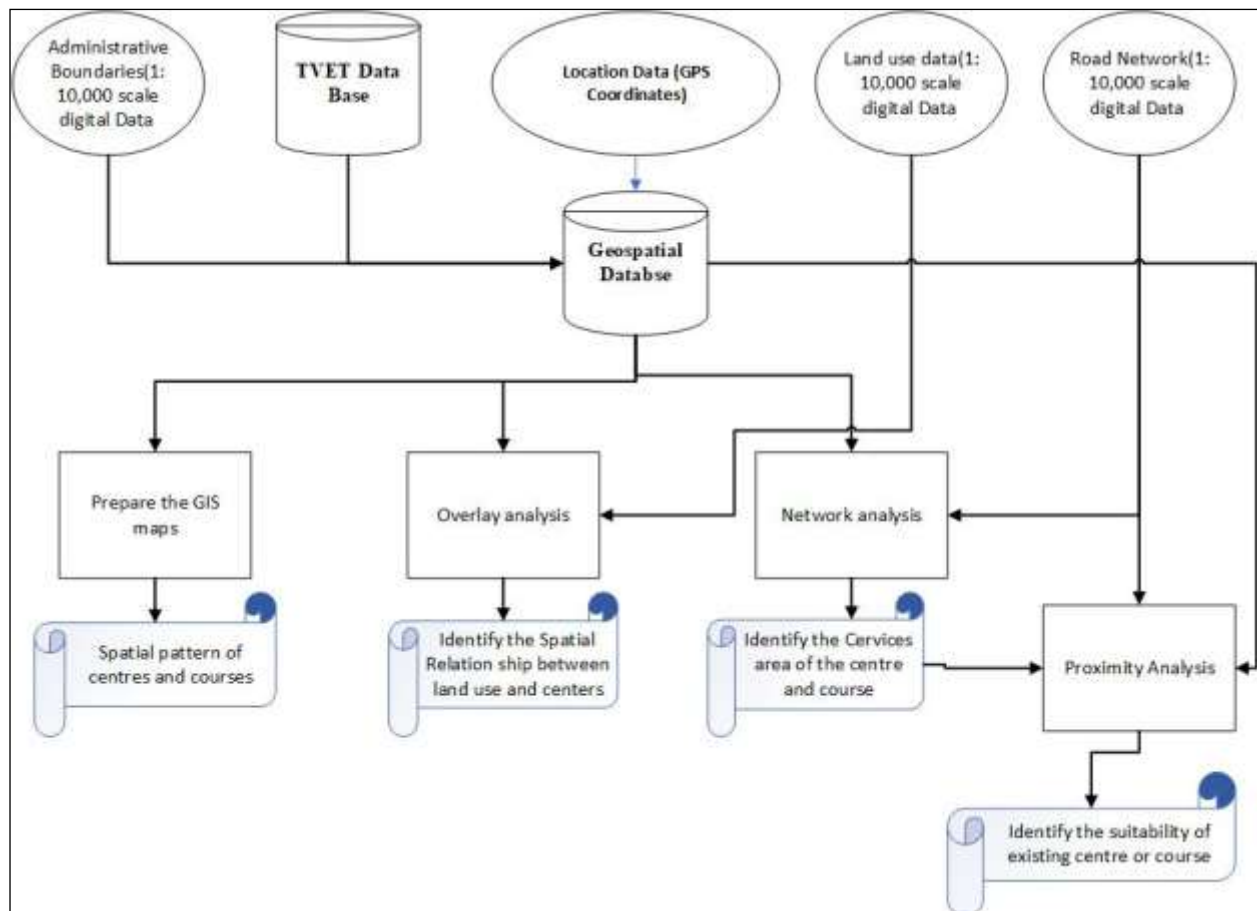


Figure 01

Chapter 4

4.0 Analysis and Interpretation of Data

The Arc GIS software has been used to find out the accredited training courses pattern in the Southern Province and All training centres with the accredited courses in the southern province have been used for the analysis. The details are given below in the Table 1.

| | |
|---|--------------|
| Total no of training centres | 247 |
| Total no of training centres having accredited courses | 113 |
| Total no of courses accredited | 1,293 |

Table 1

Figure 2 shows the spatial distribution pattern of all the TVEC registered vocational training centers in southern province.

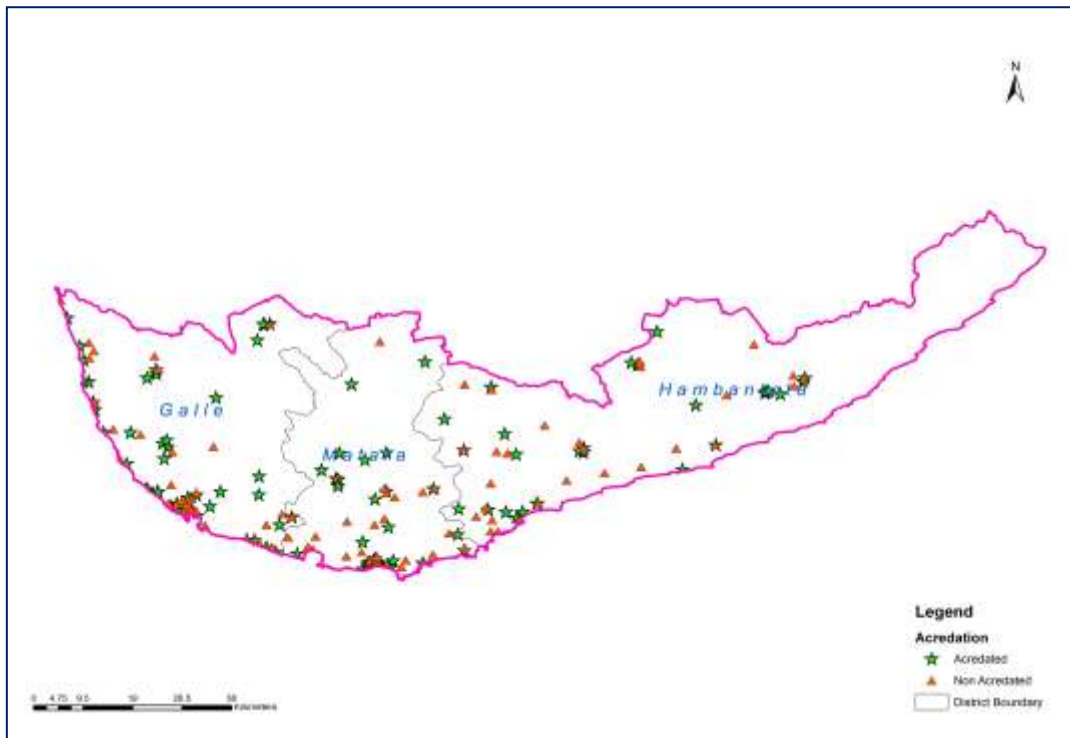


Figure 2

By considering the above mentioned pattern it shows most of training centers are situated in costal area.

4.1 Sector and district wise distribution of accredited courses in the southern province

The sector and district wise distribution of the accredited courses are given in the table 2. It has been noted that 45% of TVET training centers available in the southern province conduct accredited courses.

| Sector | Galle | Hambantota | Matara | Grand Total |
|---|--------------|-------------------|---------------|--------------------|
| Agriculture, Hunting and Forestry | 6 | 10 | 4 | 20 |
| Fishing | 3 | 7 | 3 | 13 |
| Manufacturing | 127 | 156 | 101 | 384 |
| Electricity, Gas and Water Supply | 37 | 34 | 31 | 102 |
| Construction | 41 | 31 | 42 | 114 |
| Wholesale and Retail Trade | 51 | 41 | 52 | 144 |
| Hotel and Restaurants | 26 | 56 | 13 | 95 |
| Transport, Storage and Communications | 3 | 0 | 1 | 4 |
| Financial Inter-mediation | 2 | 2 | 4 | 8 |
| Real Estate, Renting and Business Activities | 79 | 65 | 69 | 213 |
| Public Administration and Deference | 3 | 2 | 0 | 5 |
| Education | 4 | | 2 | 6 |
| Health and Social Work | 2 | 0 | 6 | 8 |
| Other Community, Social and Personal Service Activities | 68 | 36 | 73 | 177 |

Table 2

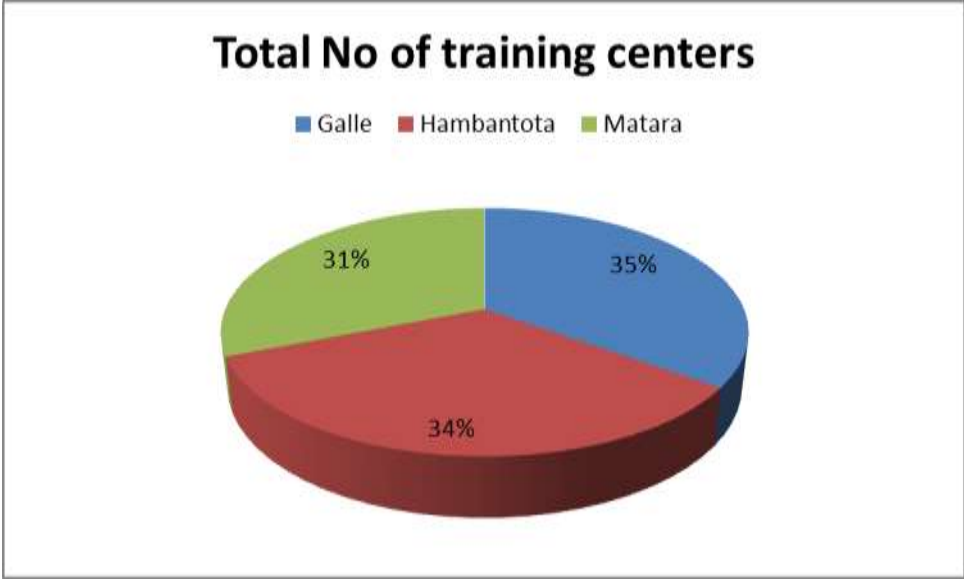


Figure 03

It is revealed that each district has nearly same number of training centres and the details are given in the figure 03 and the majority of the training centres in each district conduct manufacturing sector related courses and out of the 384 manufacturing sector related courses that are conducted in southern province 154 courses are conducted in Hambanthota district.

4.2 Sector wise distribution of NVQ courses in each divisional secretariat division in Galle district

| | | Galle District | | | | | | | | | | | | | | |
|----|---|----------------|-------------|-----------|------------|--------------|---------|---------------|----------|-----------|---------|--------|--------|----------|-----------|--------------|
| No | Sector | Akmeemana | Ambalangoda | Baddegama | Balapitiya | Bope-Poddala | Bentota | Gonapeenuwala | Elpitiya | Hikkaduwa | Imaduwa | Nagoda | Neluwa | Niyagama | Thawalama | Yakkalamulla |
| 1 | Agriculture, Hunting and Forestry | 2 | 0 | 0 | 4 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2 | Fishing | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 1 | 0 | 0 | 0 |
| 3 | Manufacturing | 4 | 0 | 19 | 27 | 0 | 0 | 24 | 0 | 20 | 5 | 0 | 2 | 17 | 2 | 7 |
| 4 | Electricity, Gas and Water Supply | 0 | 0 | 14 | 3 | 0 | 0 | 7 | 0 | 4 | 1 | 0 | 0 | 7 | 0 | 1 |
| 5 | Construction | 1 | 0 | 10 | 9 | 0 | 0 | 8 | 4 | 0 | 0 | 0 | 0 | 6 | 3 | 0 |
| 6 | Wholesale and Retail Trade | 7 | 0 | 9 | 0 | 0 | 0 | 6 | 0 | 17 | 0 | 0 | 0 | 3 | 9 | 0 |
| 7 | Hotel and Restaurants | 0 | 0 | 12 | 0 | 0 | 0 | 0 | 0 | 4 | 9 | 0 | 0 | 1 | 0 | 0 |
| 8 | Transport, Storage and Communications | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3 | 0 | 0 | 0 | 0 | 0 | 0 |
| 9 | Financial Inter-mediation | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 10 | Real Estate, Renting and Business Activities | 3 | 0 | 15 | 18 | 2 | 0 | 15 | 0 | 6 | 4 | 0 | 3 | 6 | 3 | 4 |
| 11 | Public Administration and Deference | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3 | 0 | 0 | 0 | 0 | 0 | 0 |
| 12 | Education | | | | 1 | | | | | 1 | | | | | 2 | |
| 13 | Health and Social Work | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 |
| 14 | Other Community, Social and Personal Service Activities | 13 | 6 | 6 | 8 | 0 | 0 | 7 | 0 | 17 | 0 | 0 | 0 | 11 | 0 | 0 |
| | Total | 30 | 6 | 87 | 71 | 2 | 0 | 67 | 4 | 77 | 19 | 0 | 6 | 54 | 17 | 12 |

Table 3

Considering the major industrial sectors available in Galle district such as plantation (tea cultivation), fishing and hotel (tourism) sector, there are very limited numbers of NVQ courses conducted by the vocational training centres. There is no any single training centre available in the Bope - Poddala and Nagoda divisional secretariat divisions. The details are given in the table 03.

Also, majority of the NVQ courses are conducted in the Baddegama, Balapitiya, Elpitiya, Hikkaduwa and Niyagama divisional secretariat divisions.

4.3 Sector wise distribution of NVQ courses in each divisional secretariat division in Matara district

| | | Matara district | | | | | | | | | | | | | |
|----|---|-----------------|------------|------------|--------------------|---------------|----------|-----------|-----------|---------------------|------------|----------|-----------|----------|------------|
| No | Sector | Akuressa | Athuraliya | Devinuwara | Galle Four Gravets | Kamburupitiya | Halkmana | Kotapola | Malimbada | Matara Four Gravets | Mulatiyana | Pasgoda | Thihagoda | Weligama | Welipitiya |
| 1 | Agriculture, Hunting and Forestry | 0 | 0 | 0 | 0 | 4 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2 | Fishing | 1 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3 | Manufacturing | 5 | 7 | 24 | 0 | 31 | 0 | 0 | 7 | 0 | 18 | 0 | 0 | 6 | 3 |
| 4 | Electricity, Gas and Water Supply | 2 | 0 | 8 | 0 | 4 | 0 | 0 | 3 | 0 | 8 | 3 | 0 | 2 | 1 |
| 5 | Construction | 0 | 0 | 10 | 2 | 8 | 0 | 0 | 0 | 0 | 14 | 2 | 3 | 0 | 3 |
| 6 | Wholesale and Retail Trade | 0 | 0 | 4 | 0 | 10 | 0 | 20 | 7 | 0 | 11 | 0 | 0 | 0 | 0 |
| 7 | Hotel and Restaurants | 0 | 0 | 7 | 0 | 2 | 0 | 0 | 0 | 0 | 4 | 0 | 0 | 0 | 0 |
| 8 | Transport, Storage and Communication | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 9 | Financial Inter-mediation | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 |
| 10 | Real Estate, Renting and Business Activities | 2 | 3 | 8 | 3 | 29 | 4 | 0 | 3 | 0 | 14 | 0 | 0 | 0 | 3 |
| 11 | Public Administration and Deference | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 12 | Education | | | | 1 | 1 | | | | | | | | | |
| 13 | Health and Social Work | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 4 | 0 | 0 | 0 | 0 |
| 14 | Other Community, Social and Personal Services | 8 | 0 | 11 | 7 | 19 | 0 | 6 | 0 | 0 | 16 | 0 | 6 | 0 | 0 |
| | Total | 18 | 10 | 73 | 13 | 114 | 4 | 26 | 20 | 0 | 91 | 5 | 9 | 8 | 10 |

Table 4

Since the Matara district is very popular for plantation (tea, cinnamon, etc.), fishing (the largest fishing harbor is available in Matara) and hotel (tourism) sectors, there are very limited numbers of NVQ courses conducted by the vocational training centres. There is no any single training centre available in the Malimbala and Welipitiya divisional secretariat divisions. The details are given in the table 04.

Also, majority of the NVQ courses are conducted in the Devinuwara, Galle four gravets and Matara four gravets divisional secretariat divisions.

4.4 Sector wise distribution of NVQ courses in each divisional secretariat division in Hambantota district

| Hambantota District | | | | | | | | | | | | | |
|---------------------|---|----------------------------------|------------------------|------------|---------------------------|-------------|---------------------------|------------|-------------|----|----|----|---|
| No | Sector | Angunakolapelessa Ambalantota | Habaraduwa Beliatta | Hambantota | Lunugamvehera Katuwana | Sooriyawewa | Tissamaharama Tangalle | Walasmulla | Weeraketiya | | | | |
| 1 | Agriculture, Hunting and Forestry | 7 | 0 | 0 | 0 | 0 | 2 | 1 | 0 | 0 | 0 | 0 | 0 |
| 2 | Fishing | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 5 | 0 | 0 | 1 | |
| 3 | Manufacturing | 1 | 10 | 24 | 38 | 25 | 3 | 7 | 4 | 20 | 8 | 13 | 3 |
| 4 | Electricity, Gas and Water Supply | 0 | 2 | 4 | 5 | 5 | 1 | 2 | 4 | 6 | 2 | 2 | 1 |
| 5 | Construction | 0 | 6 | 7 | 0 | 4 | 0 | 8 | 1 | 4 | 1 | 0 | 0 |
| 6 | Wholesale and Retail Trade | 7 | 6 | 3 | 0 | 8 | 5 | 3 | 0 | 6 | 3 | 0 | 0 |
| 7 | Hotel and Restaurants | 0 | 0 | 0 | 21 | 0 | 0 | 5 | 0 | 20 | 10 | 0 | 0 |
| 8 | Transport, Storage and Communications | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 9 | Financial Inter-mediation | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 10 | Real Estate, Renting and Business Activities | 4 | 3 | 7 | 3 | 6 | 2 | 3 | 0 | 20 | 11 | 3 | 3 |
| 11 | Public Administration and Deference | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 |
| 12 | Education | | | | | | | | | | | | |
| 13 | Health and Social Work | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 14 | Other Community, Social and Personal Service Activities | 0 | 6 | 0 | 0 | 9 | 6 | 0 | 0 | 15 | 0 | 0 | 0 |
| | Total | 19 | 33 | 47 | 67 | 57 | 17 | 30 | 11 | 98 | 35 | 18 | 8 |

Table 05

The Hambantota district has the international airport, harbor and the Yala national park and the southern express way, there is no or very limited numbers of NVQ courses conducted by the vocational training centres. There is no any NVQ courses conducted in transport, storage and communications sector occupations in up to 2022. The details are given in the table 05.

4.5 NVQ Distribution pattern as Level wise reports

4.5.1 Level 01 courses distribution in southern province as Divisional Secretariat

| Galle District | | | | | | | | | | | | | | | | | | |
|-----------------------|---|------------------------|-------------|-----------|------------|---------|--------------|----------|--------------------|---------------|------------|-----------|---------|--------|--------|----------|-------|-----------|
| No | Sector | Divisional Secretariat | | | | | | | | | | | | | | | Total | |
| | | Akmeemana | Ambalangoda | Baddegama | Balapitiya | Bentota | Bope-Poddala | Elpitiya | Galle Four Gravets | Gonapeenuwala | Habaraduwa | Hikkaduwa | Imaduwa | Nagoda | Neluwa | Niyagama | | Thawalama |
| 1 | Agriculture, Hunting and Forestry | 2 | 0 | 0 | 4 | 0 | 0 | 0 | 4 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 10 |
| 2 | Fishing | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 2 | 0 | 0 | 1 | 0 | 0 | 4 |
| 3 | Manufacturing | 4 | 0 | 19 | 27 | 0 | 0 | 24 | 31 | 0 | 38 | 20 | 5 | 0 | 2 | 17 | 2 | 196 |
| 4 | Electricity, Gas and Water Supply | 0 | 0 | 14 | 3 | 0 | 0 | 7 | 4 | 0 | 5 | 4 | 1 | 0 | 0 | 7 | 0 | 46 |
| 5 | Construction | 1 | 0 | 10 | 9 | 0 | 0 | 8 | 8 | 4 | 0 | 0 | 0 | 0 | 0 | 6 | 3 | 49 |
| 6 | Wholesale and Retail Trade | 7 | 0 | 9 | 0 | 0 | 0 | 6 | 10 | 0 | 0 | 17 | 0 | 0 | 0 | 3 | 9 | 61 |
| 7 | Hotel and Restaurants | 0 | 0 | 12 | 0 | 0 | 0 | 0 | 2 | 0 | 21 | 4 | 9 | 0 | 0 | 1 | 0 | 49 |
| 8 | Transport, Storage and Communications | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 3 | 0 | 0 | 0 | 0 | 0 | 4 |
| 9 | Financial Inter-mediation | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 4 |
| 10 | Real Estate, Renting and Business Activities | 3 | 0 | 15 | 18 | 2 | 0 | 15 | 29 | 0 | 3 | 6 | 4 | 0 | 3 | 6 | 3 | 111 |
| 11 | Public Administration and Deference | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3 | 0 | 0 | 0 | 0 | 0 | 3 |
| 12 | Health and Social Work | | | 1 | | | | | 1 | | | 1 | | | | 2 | | 5 |
| 13 | Health and Social Work | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 4 |
| 14 | Other Community, Social and Personal Service Activities | 13 | 6 | 6 | 8 | 0 | 0 | 7 | 19 | 0 | 0 | 17 | 0 | 0 | 0 | 11 | 0 | 87 |

Table 06

4.5.2 Distribution pattern in NVQ Level three courses in Galle district

| Galle District | | | | | | | | | | | | | | | | |
|----------------|---|-----------|-------------|-----------|------------|---------|-------------|----------|------------|------------|-----------|---------|--------|--------|----------|--------------|
| No | Sector | Akmeemana | Ambalangoda | Baddegama | Balapitiya | Bentota | Bope-Poddal | Elpitiya | Gonapeenuw | Habaraduwa | Hikkaduwa | Imaduwa | Nagoda | Neluwa | Niyagama | Yakkalamulla |
| 1 | Agriculture, Hunting and Forestry | 1 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2 | Fishing | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 |
| 3 | Manufacturing | 2 | 0 | 9 | 10 | 0 | 0 | 17 | 0 | 15 | 11 | 2 | 0 | 0 | 7 | 4 |
| 4 | Electricity, Gas and Water Supply | 0 | 0 | 10 | 2 | 0 | 0 | 5 | 0 | 2 | 2 | 0 | 0 | 0 | 4 | 1 |
| 5 | Construction | 0 | 0 | 10 | 2 | 0 | 0 | 5 | 0 | 2 | 2 | 0 | 0 | 0 | 4 | 1 |
| 6 | Wholesale and Retail Trade | 2 | 0 | 3 | 0 | 0 | 0 | 3 | 0 | 0 | 2 | 0 | 0 | 0 | 1 | 0 |
| 7 | Hotel and Restaurants | 0 | 0 | 4 | 0 | 0 | 0 | 0 | 0 | 0 | 3 | 0 | 0 | 0 | 1 | 0 |
| 8 | Transport, Storage and Communications | | | | | | | | | | 1 | | | | | |
| 9 | Financial Inter-mediation | | | | 1 | | | | | | | | | | | |
| 10 | Real Estate, Renting and Business Activities | 1 | 0 | 5 | 7 | 1 | 0 | 6 | 0 | 1 | 2 | 0 | 0 | 1 | 2 | 1 |
| 11 | Public Administration and Deference | | | | | | | | | | 1 | | | | | |
| 12 | Health and Social Work | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 |
| 13 | Other Community, Social and Personal Service Activities | 10 | 4 | 4 | 5 | 0 | 0 | 5 | 0 | 0 | 12 | 0 | 0 | 0 | 6 | 0 |

Table 07

From the industry perspective, the demand for the craft level workers (level 03) is higher than any other levels, there is a very limited number of courses are conducted for the highly demanded sectors in the district. The details are given in the table 07.

4.5.3 Distribution pattern in NVQ Level three courses in Matara district

| Matara District | | | | | | | | | | | | | | | | |
|-----------------|---|----------|------------|------------|-----------|--------------------|---------|---------------|----------|-----------|---------------------|------------|---------|-----------|---------|------------|
| No | Sector | Akuressa | Athurallya | Devinuwara | Dickwella | Galle Four Gravets | Hakmana | Kamburupitiya | Kotapola | Malimbada | Matara Four Gravets | Mulatiyana | Pasgoda | Thihagoda | Weigama | Welipitiya |
| 1 | Agriculture, Hunting and Forestry | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2 | Fishing | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3 | Manufacturing | 3 | 3 | 14 | 0 | 12 | 0 | 0 | 3 | 0 | 7 | 0 | 0 | 1 | 1 | 0 |
| 4 | Electricity, Gas and Water Supply | 2 | 0 | 4 | 0 | 2 | 0 | 0 | 2 | 0 | 5 | 2 | 0 | 2 | 1 | 0 |
| 5 | Construction | 2 | 0 | 4 | 0 | 2 | 0 | 0 | 2 | 0 | 5 | 2 | 0 | 2 | 1 | 0 |
| 6 | Wholesale and Retail Trade | 0 | 0 | 2 | 0 | 3 | 0 | 5 | 2 | 0 | 2 | 0 | 0 | 0 | 0 | 0 |
| 7 | Hotel and Restaurants | 0 | 0 | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 8 | Transport, Storage and Communications | | | | | | | | | | | | | | | |
| 9 | Financial Inter-mediation | | | | | 1 | | | | | 1 | | | | | |
| 10 | Real Estate, Renting and Business Activities | 1 | 1 | 3 | 1 | 11 | 1 | 0 | 1 | 0 | 5 | 0 | 0 | 0 | 1 | 0 |
| 11 | Public Administration and Deference | | | | | | | | | | | | | | | |
| 12 | Health and Social Work | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 3 | 0 | 0 | 0 | 0 | 0 |
| 13 | Other Community, Social and Personal Service | 5 | 0 | 6 | 4 | 11 | 0 | 4 | 0 | 0 | 7 | 0 | 4 | 0 | 0 | 0 |

Table 08

From the industry perspective, the demand for the craft level workers (level 03) is higher than any other levels, there is a very limited number of courses are conducted for the highly demanded sectors in the district The details are given in the table 08.

4.5.4 Distribution pattern in NVQ Level three courses in Hambanthota district

| Hambantota District | | | | | | | | | | | | | |
|---------------------|--|-------------|-------------------|---------|------------|----------|---------------|-------------|----------|-----------|---------------|------------|-------------|
| No | Sector | Ambalantota | Angunakolapelessa | Belatta | Hambantota | Katuwana | Lunugamvehera | Sooriyawewa | Tangalle | Thawalama | Tissamaharama | Walasmulla | Weeraketiya |
| 1 | Agriculture, Hunting and Forestry | 3 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 |
| 2 | Fishing | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 |
| 3 | Manufacturing | 0 | 4 | 9 | 13 | 2 | 2 | 2 | 11 | 0 | 4 | 4 | 1 |
| 4 | Electricity, Gas and Water Supply | 0 | 1 | 2 | 4 | 1 | 1 | 4 | 4 | 0 | 2 | 2 | 1 |
| 5 | Construction | 0 | 1 | 2 | 4 | 1 | 1 | 4 | 4 | 0 | 2 | 2 | 1 |
| 6 | Wholesale and Retail Trade | 2 | 0 | 1 | 3 | 2 | 1 | 0 | 1 | 3 | 1 | 0 | 0 |
| 7 | Hotel and Restaurants | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 6 | 0 | 0 |
| 8 | Transport, Storage and Communications | | | | | | | | | | | | |
| 9 | Financial Inter-mediation | | | 1 | | | | | | | | | |
| 10 | Real Estate, Renting and Business Activities | 1 | 1 | 3 | 2 | 1 | 1 | 0 | 8 | 1 | 5 | 1 | 1 |
| 11 | Public Administration and Deference | | | | | | | | 1 | | | | |
| 12 | Health and Social Work | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 13 | Other Community, Social and Personal Service | 0 | 4 | 0 | 5 | 4 | 0 | 0 | 9 | 0 | 0 | 0 | 0 |

Table 09

From the industry perspective, the demand for the craft level workers (level 03) is higher than any other levels, there is a very limited number of courses are conducted for the highly demanded sectors in the district. The details are given in the table 09.

There is no any NVQ level three courses conducted for health sector in Hambanthota district.

4.6 Sector based analysis

TVEC has been already published VET Plans for thirteen number (13) of sectors under the TVET sector as at the end of year 2022. We have analyzed highly demanded sectors in the southern province in our research and the included into the google drive and it will also guide the training seekers to find the relevant vocational training centres.

As an example, in our research report, we have described about one sector (Agriculture, Hunting and Forestry sector) to the guide all training seekers in the southern area for entire NVQ Courses that have been developed under the Tertiary and Vocational Education and Training Sector.

4.6.1 explains about the NVQ Level one (01) to four (04) courses and 4.6.2 explains about the NVQ Level 5 and 6 courses.

Course analyses relevant to the remaining sectors are included in this report as attachments for the reference of the training seekers in Sri Lanka.

4.6.1 Agriculture, Hunting and Forestry sector distribution of the southern Province

There are ten (10) qualification packages already developed under this sector.

4.6.1. a A01S001Q1L3 (Plant Nursery Development Assistant)

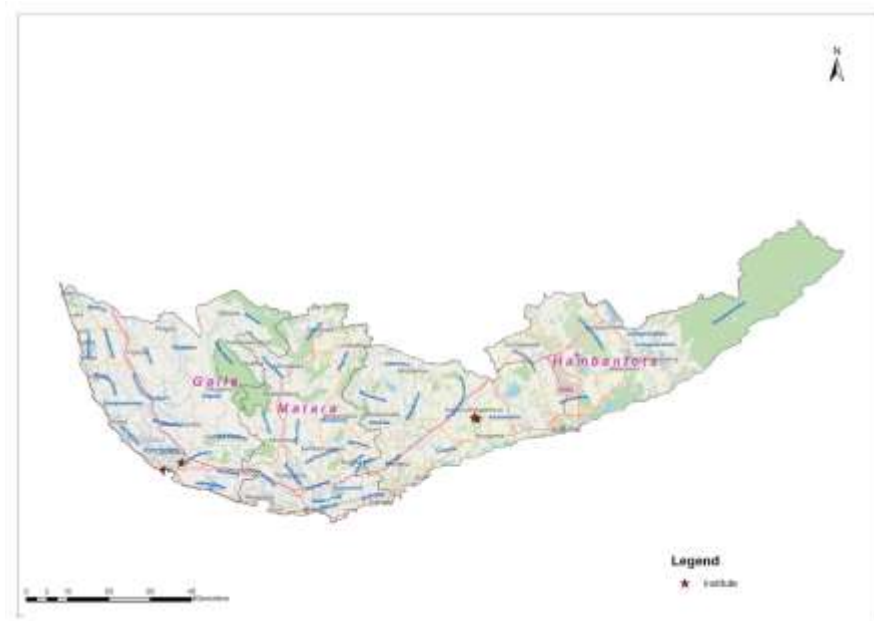


Figure 04

A01S001Q1L3 (Plant Nursery Development Assistant): There are four training centers conducted the said training programme in the southern province as shown in the figure 04.

4.6.1. b A01S001Q2L4 (Plant Nursery Development Assistant)

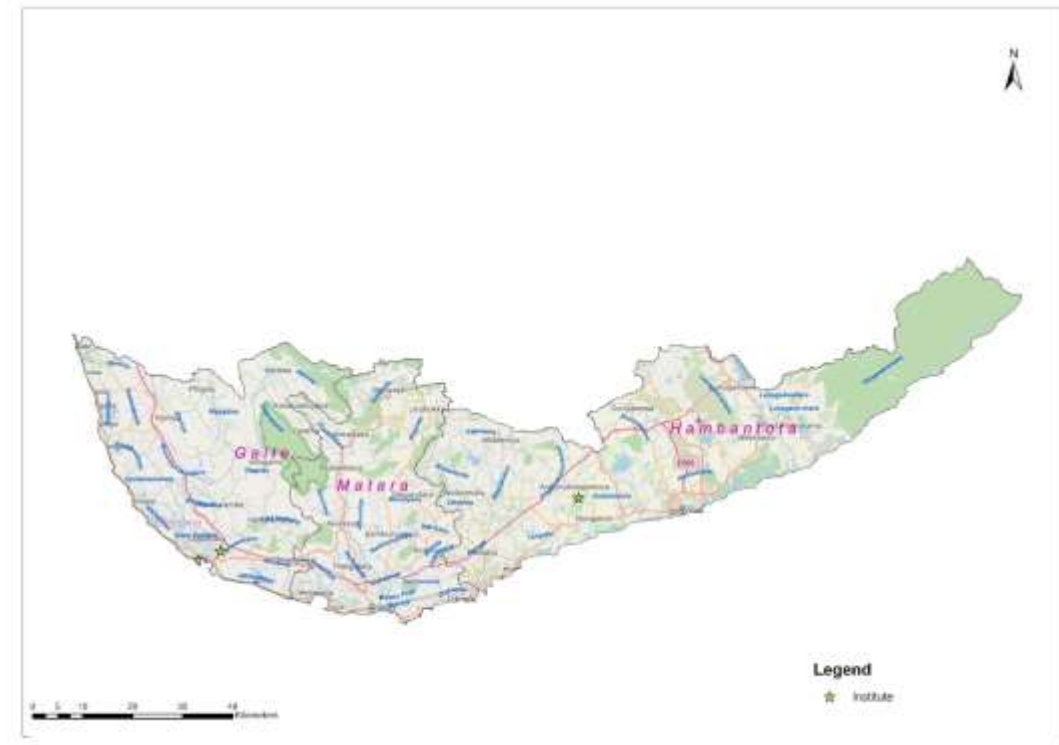


Figure 05

A01S001Q2L4 Plant Nursery Development Assistant: There were three training centers established in the southern province as shown in the figure 05.

4.6.1. c Field Officer (Rubber) A01S002

Field Officer (Rubber) A01S002: There are no any courses conducted for this occupation in the southern province.

4.6.1.d Field Assistant (Agriculture) A01S003

Field Assistant (Agriculture) A01S003: There were two training centers established in the southern province. Those training centres conduct the NVQ Level 04 courses for this occupation as well The details are shown in the figure 06 and 07.

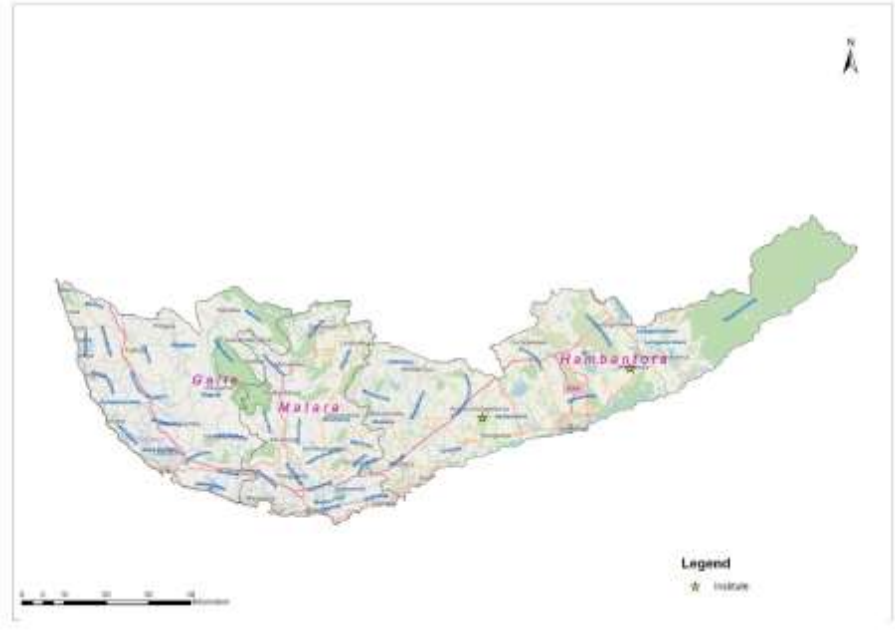


Figure 06

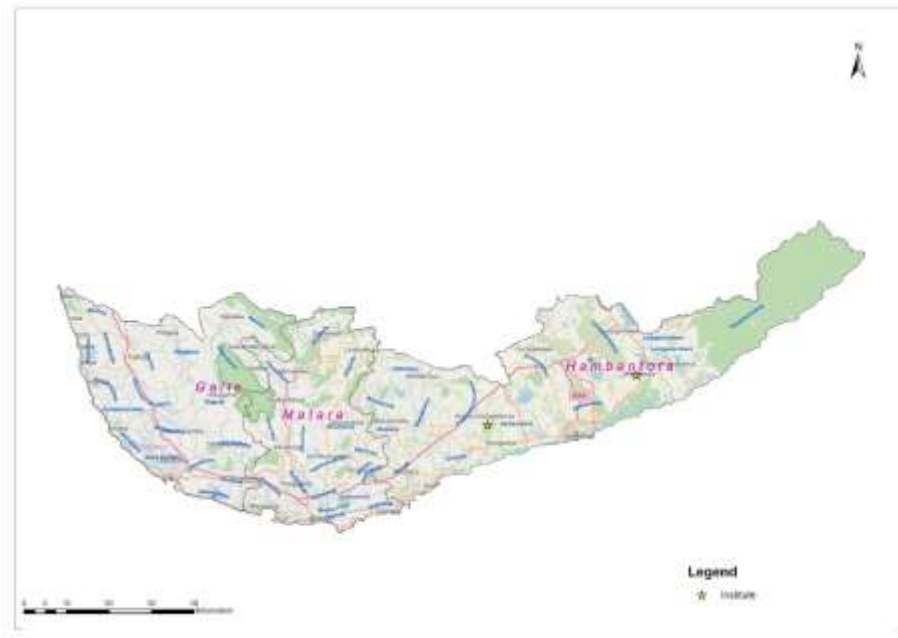


Figure 07

4.6.1. e Cinnamon Field Operations NVQ Level 03 (A01S009Q1L3) and Cinnamon Field Operations NVQ Level 03 (A01S009Q2L4):

Cinnamon Field Operations NVQ Level 03 (A01S009Q1L3) and Cinnamon Field Operations NVQ Level 03 (A01S009Q2L4): One training centre which is located in the Balapitiya DS division in Galle district conducts NVQ level 03 and level 04 training for this occupation. The details are available in the figure 08 and 09.

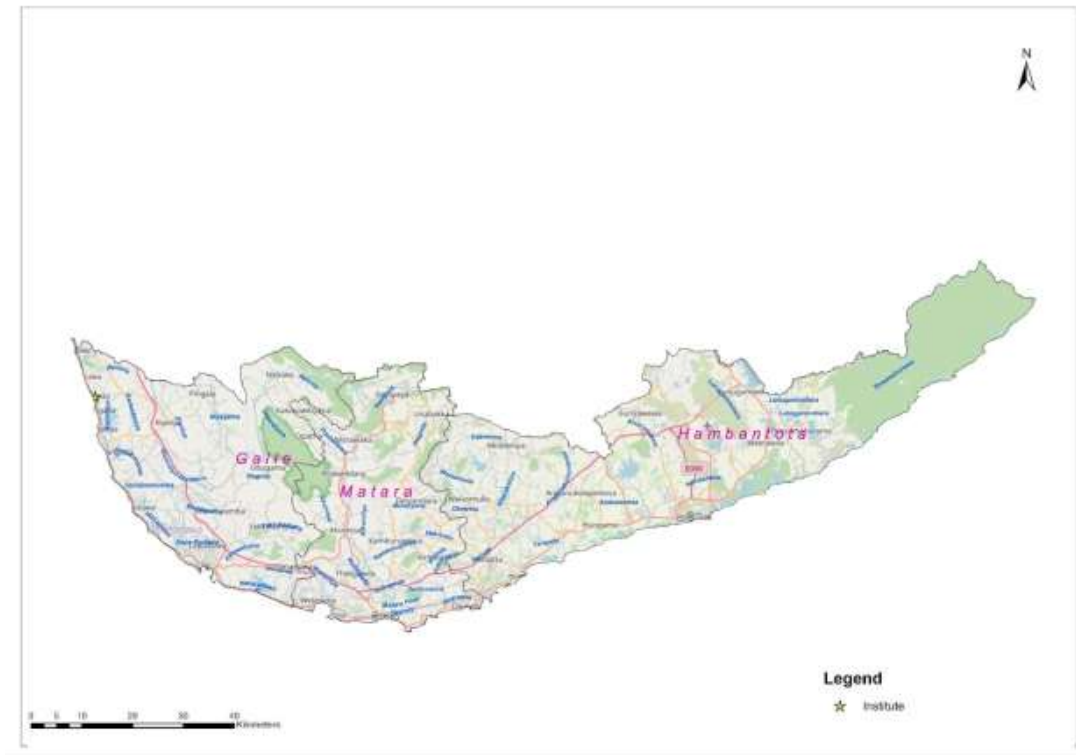


Figure 08

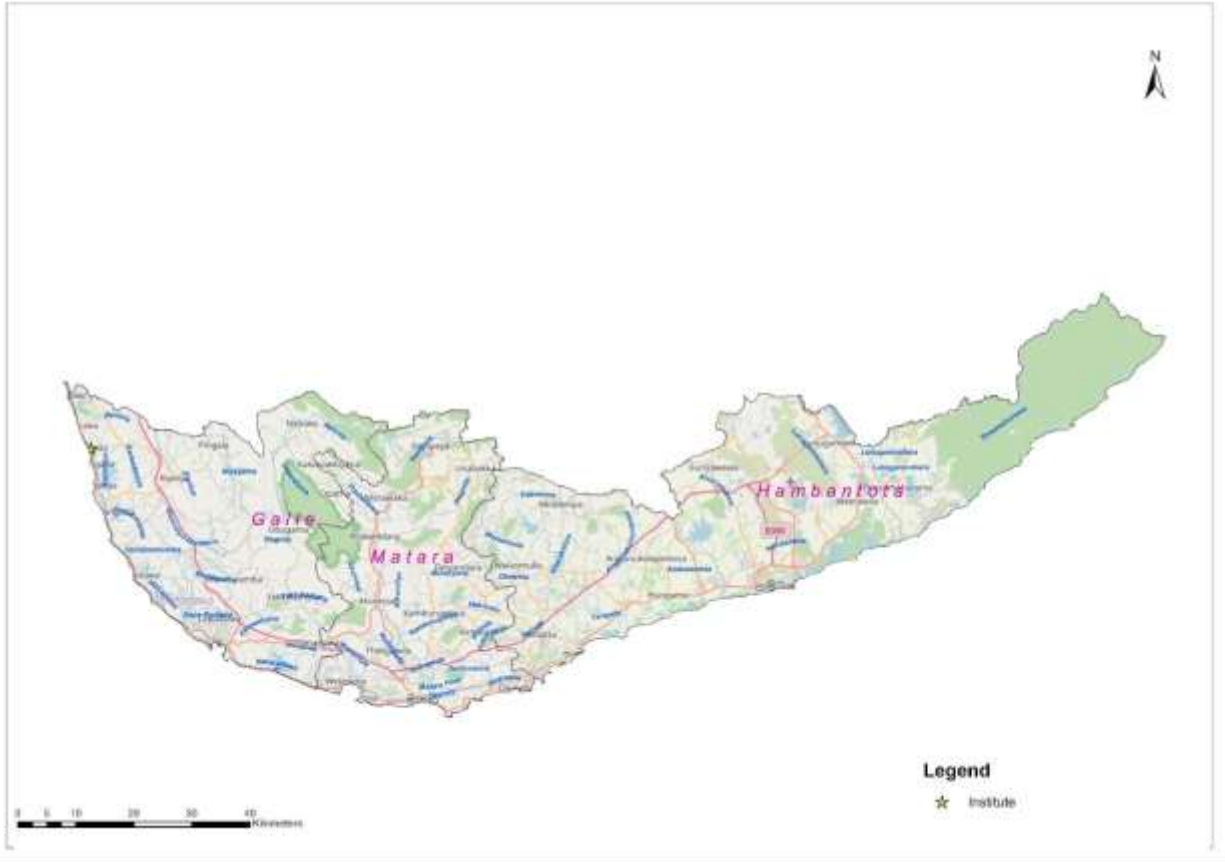


Figure 09

4.6.1. g Cinnamon Factory Operations (A01S010)

Cinnamon Factory Operations (A01S010): The Cinnamon Training Academy conducts the training for this course. This is the same training institute conducts the Cinnamon Field Operations NVQ Level 03 (A01S009Q1L3) and Cinnamon Field Operations NVQ Level 04 (A01S009Q2L4).

4.6.1. h Four Wheel Tractor Operator (A01S015)

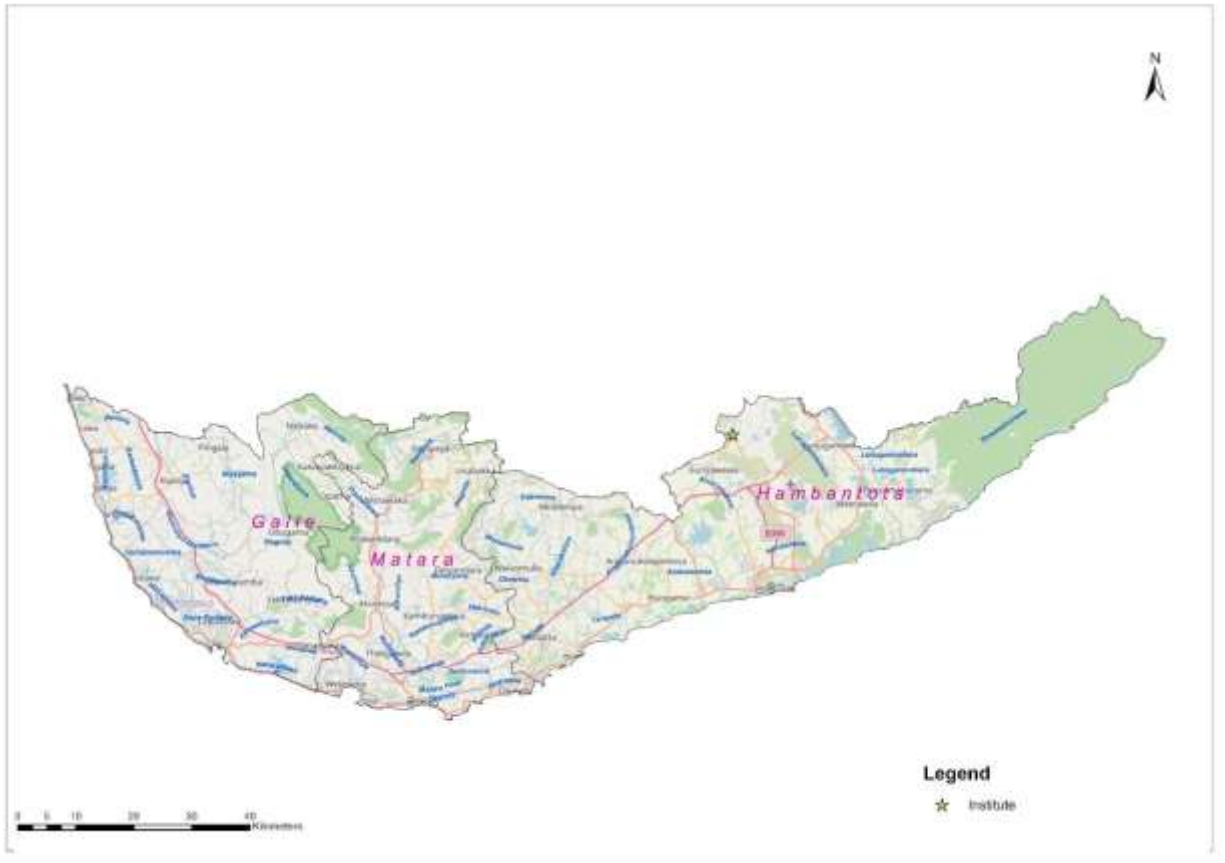


Figure 10

Four Wheel Tractor Operator (A01S015): Only one center situated between Sooriyawewa and Lunugamvehera DS divisions in Hambantota district conduct this course. The details are available in the figure 10.

4.6.2 Spatial distribution of Diploma and Higher National Diploma courses in southern province for the Agriculture, Hunting and Forestry sector (A01T003)

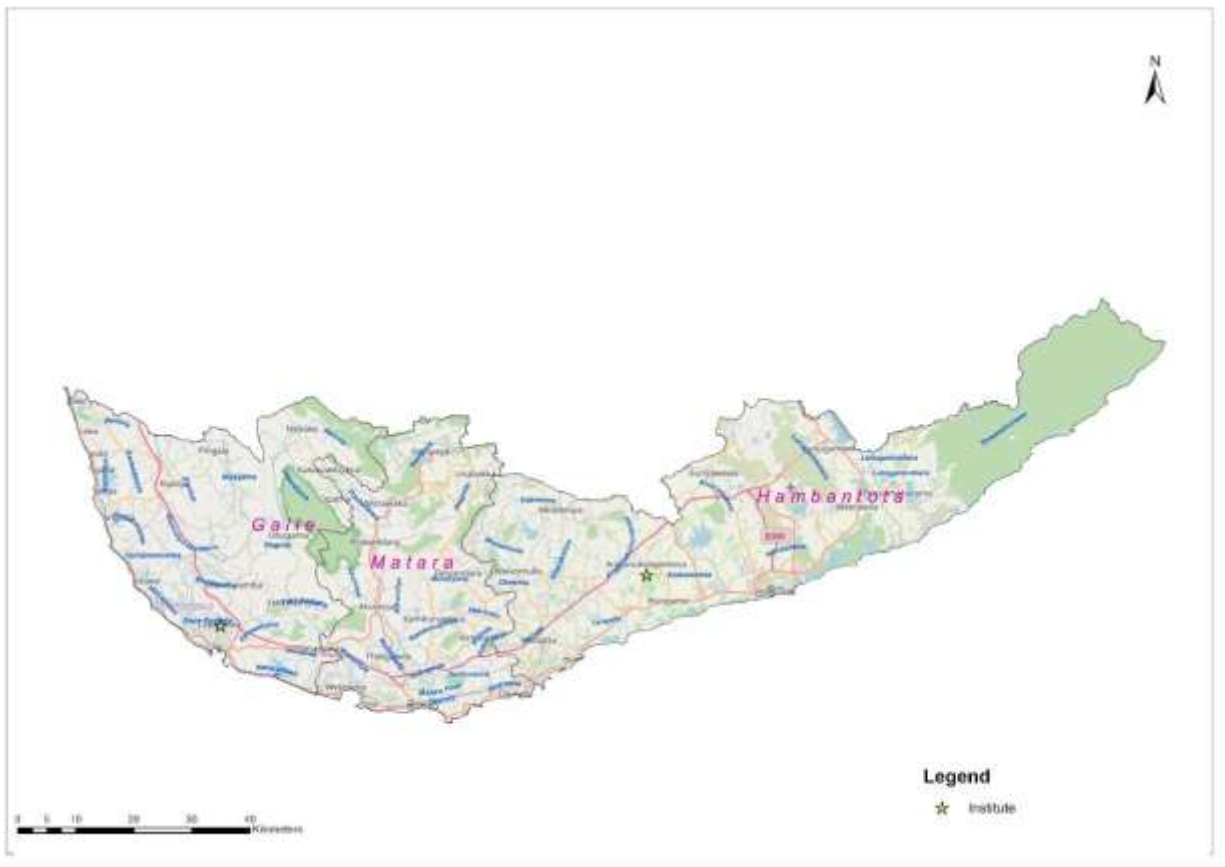


Figure 11

Diploma and Higher National Diploma courses in southern province for the Agriculture, Hunting and Forestry sector (A01T003): There are two training centers conduct Agricultural Production Technology NVQ level five (5) and Six (6) courses in southern province. Those training centres are located in Pope Poddala DS division in Galle district and Ambalanthota DS division in Hambanthota District.

The maps for the other sectors are attached at end of the report hence students can find the relevant training centres to follow the courses.

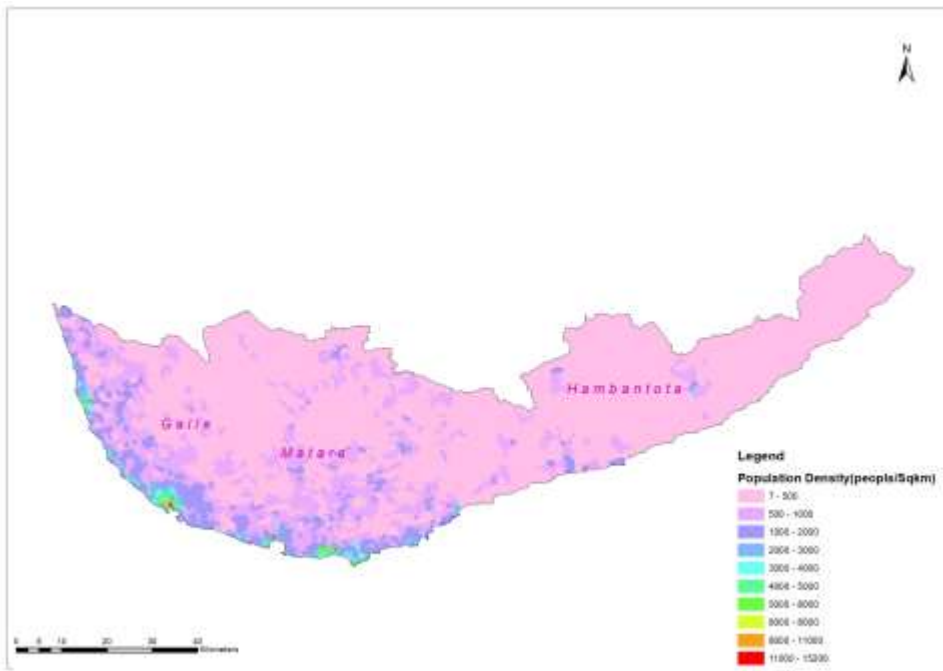


Figure 12

Population density in Southern Province

Galle and Matara districts have the population of more than thousand in square kilometers and specially the coastal areas has more potential in terms of the population density for establishing training centers.

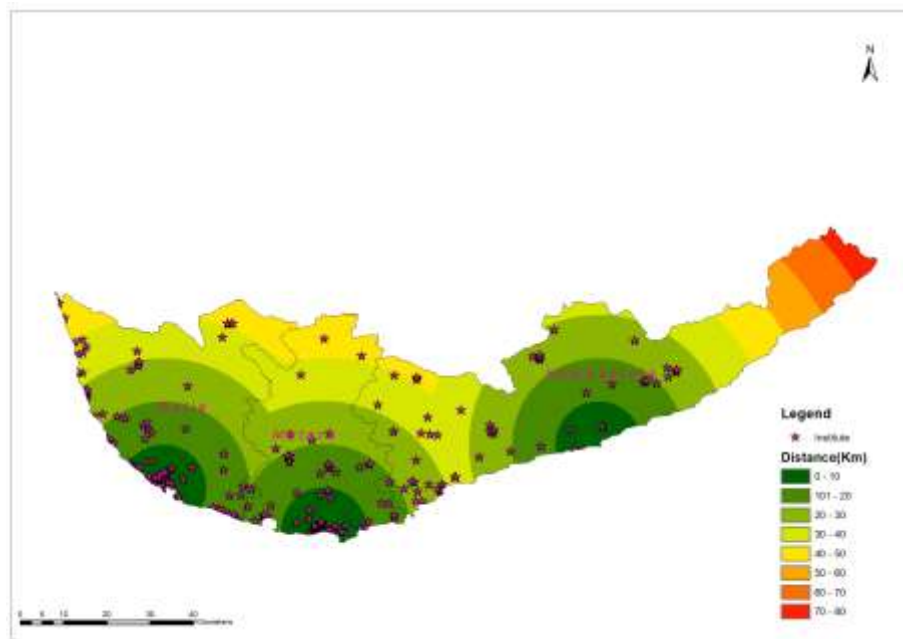


Figure 13

According to the buffer analysis of GIS model, it has been shown that most of training centers were established within the range of 20km in the major cities of Gale and Matara districts and specially the Galle district students have the accesses for a variety of courses rather than other districts.

Chapter 5

Conclusion and Suggestions

The study has been made to explore the spatial distribution of existing vocational training centers and the courses and propose the suitable locations for the rearrangements in order to make the TVET sector training further relevant to the career progression of trainees, land use pattern and industrial demand in the southern province of Sri Lanka.

The southern province is basically includes the following major industry sectors such as Agriculture, Hunting and Forestry, Hotel and Restaurent.

During the research study, it has been identified the spatial distribution of the vocational training centers and vocational training courses located in Southern Province relevant to the above three sectors using the GPS technology.

The study has been revealed that there is a huge gap existed between the major industry demand and the supply made from the vocational training (relevancy and the quantity) in the province.

Also with the establishment of southern expresses way the trainees travel to Colombo to follow the training.

There is a minimum number of training delivered relevant to the major industry related occupations and the number of trainee participation is also very limited for the major sector related training. In addition, the career progression pathways for trainees in the Southern Province should be created in such a way that the supply can be made to meet the existing and emerging demand.

New training centres and courses should be established nearby to the relevant to the leading industries e.g. Fishery vessel skipper, Fish harvest technician, Field Officer/ Assistant (Tea), Tour guide, Trekking/ Hiking and so on.

Further, based on the spatial analysis of the considering area even following National Competency Standards related to the following occupation has been already developed, no any courses in this area.

Level 5 and 6

A01T001 – Farm Machinery Technology

A01T002 – Floriculture and Landscape Gardening Technology

Finally, it is proposed to continue the similar study in other provinces and the outcome shall direct the training providers to rationalize the future training provision towards the betterment of the country.

References

TVEC web site : www.tvec.gov.lk and Google drive

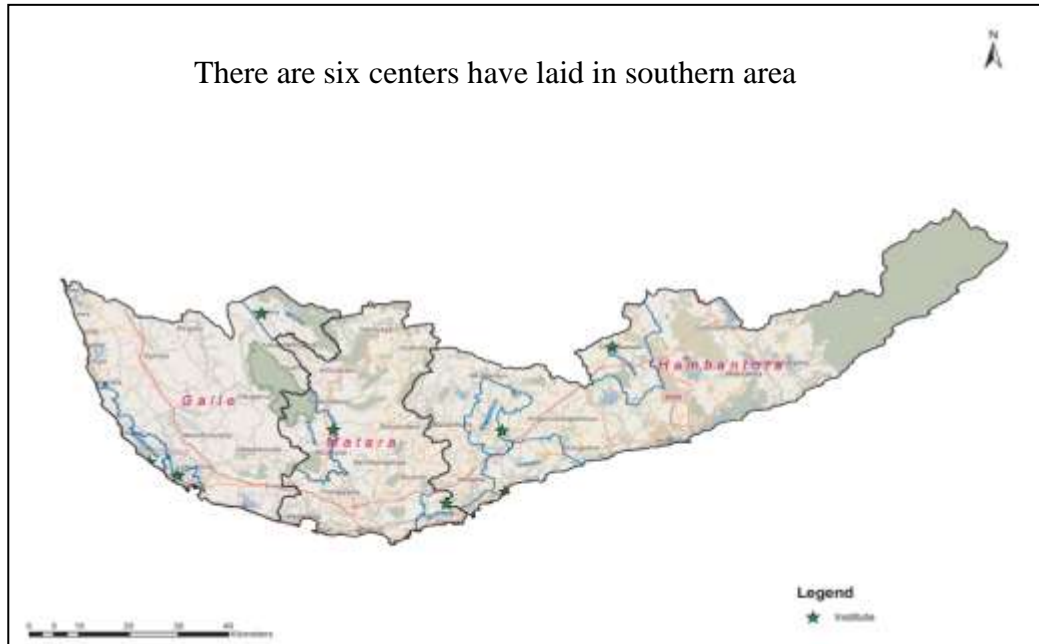
Vocational Education and Training Plan for Hotel and Tourism Sector

"Population by Province, 2012" (PDF). Department of Census & Statistics. 2012.

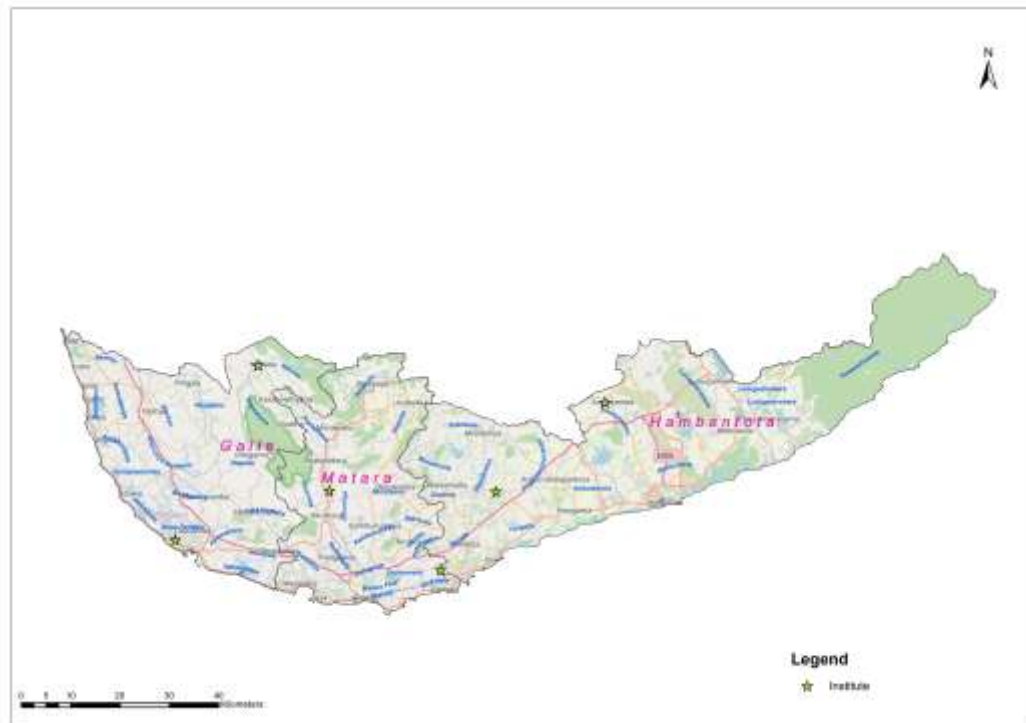
Handbook on Fisheries Statistics 2020

Courses analysis in southern area

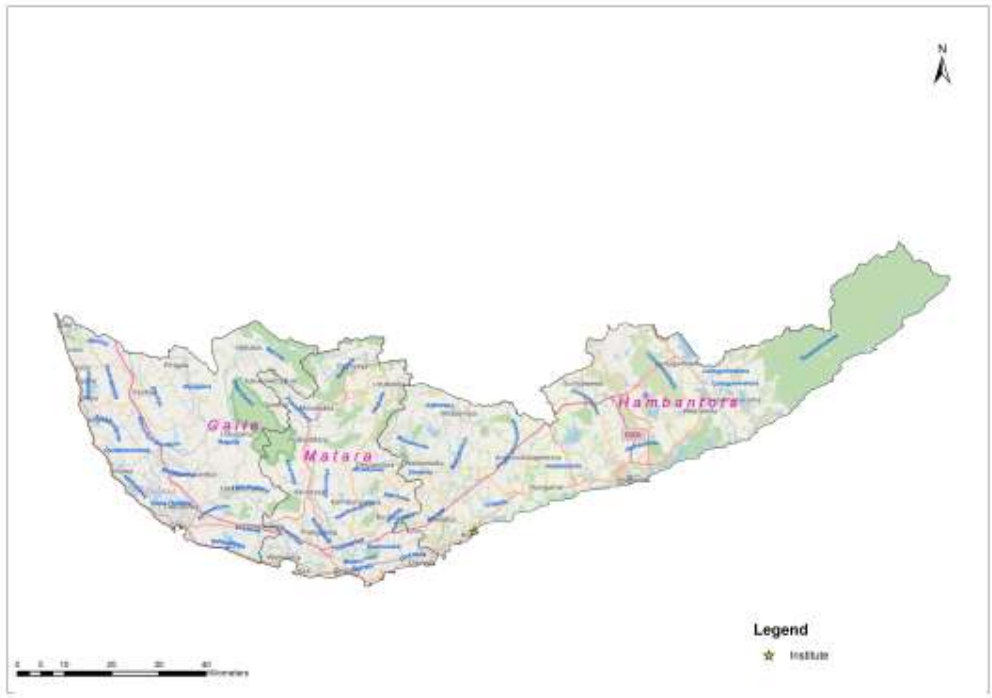
Guidance Maps for the NVQ courses level one(01) to Six(06) in Fishing Sector(Code No B)



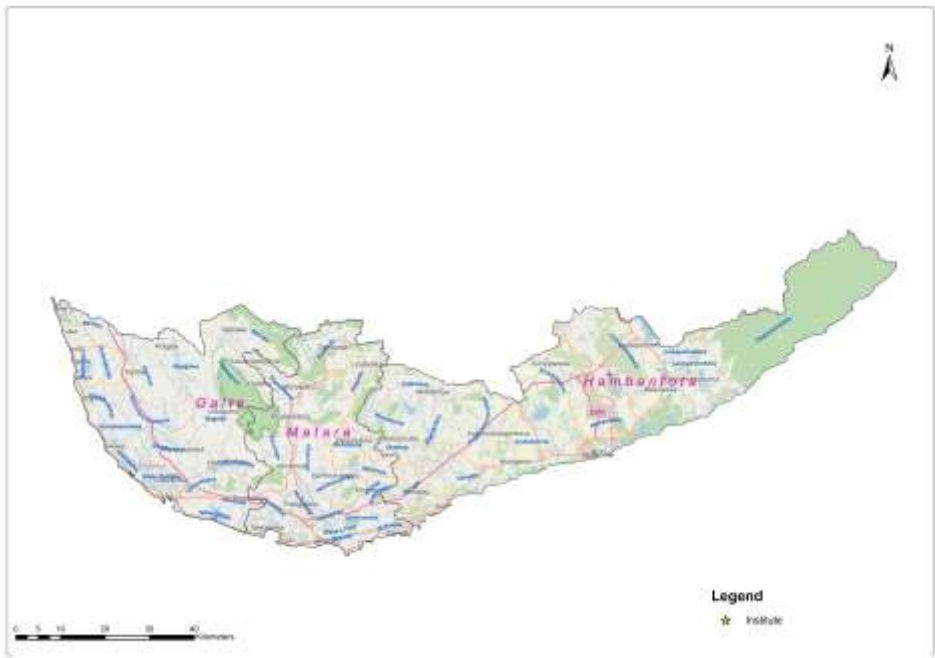
Level wise maps



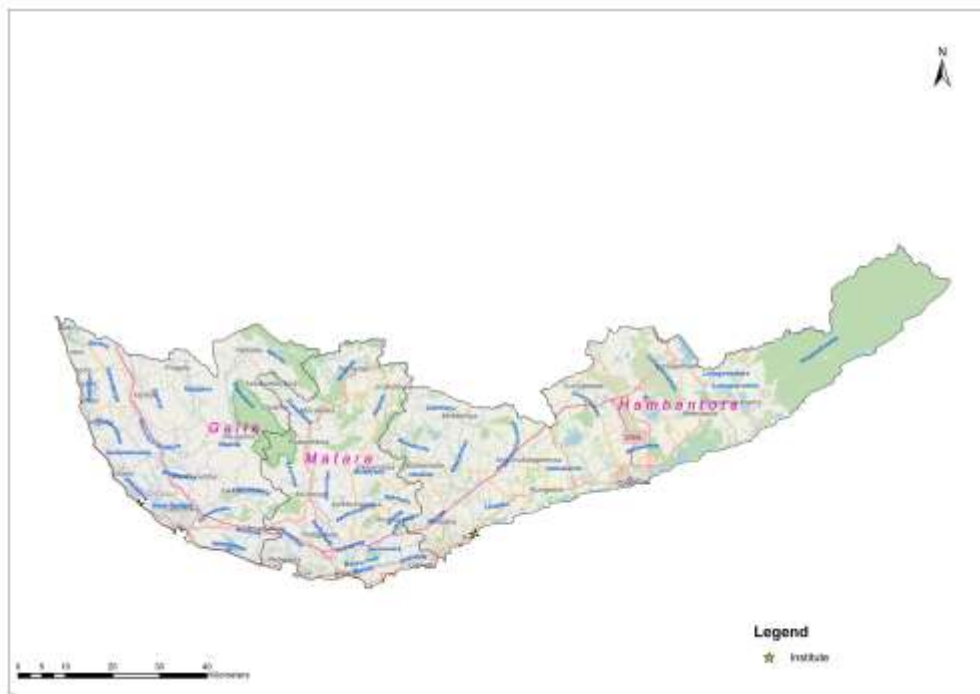
BCS01Q1L1- It shows Six centers distributed in six DS divisions



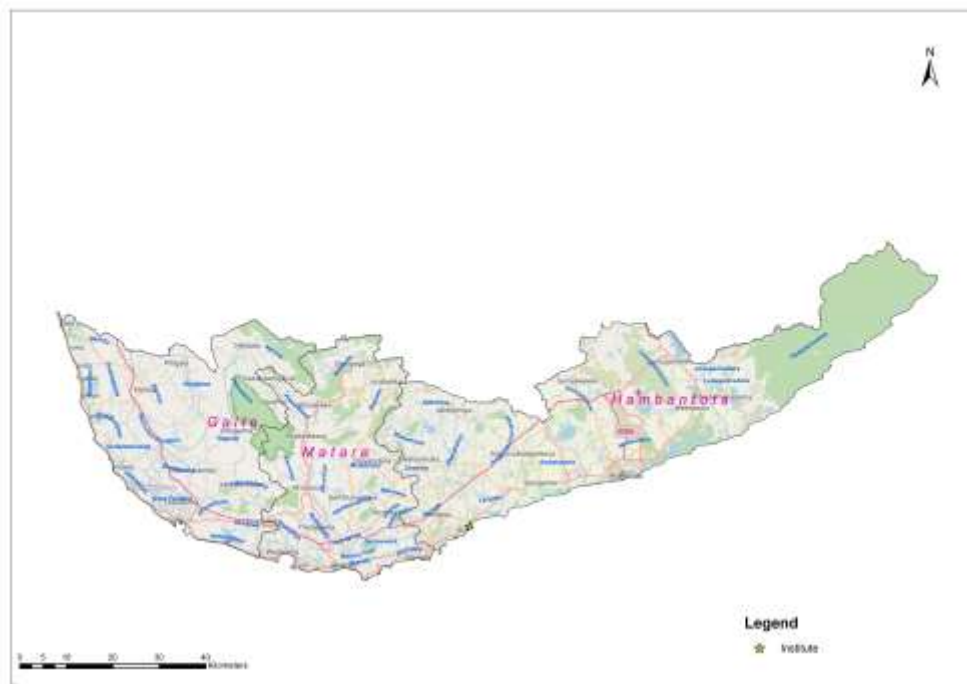
B05S003Q2L3(Scuba Diver)-Thangalle DS Division



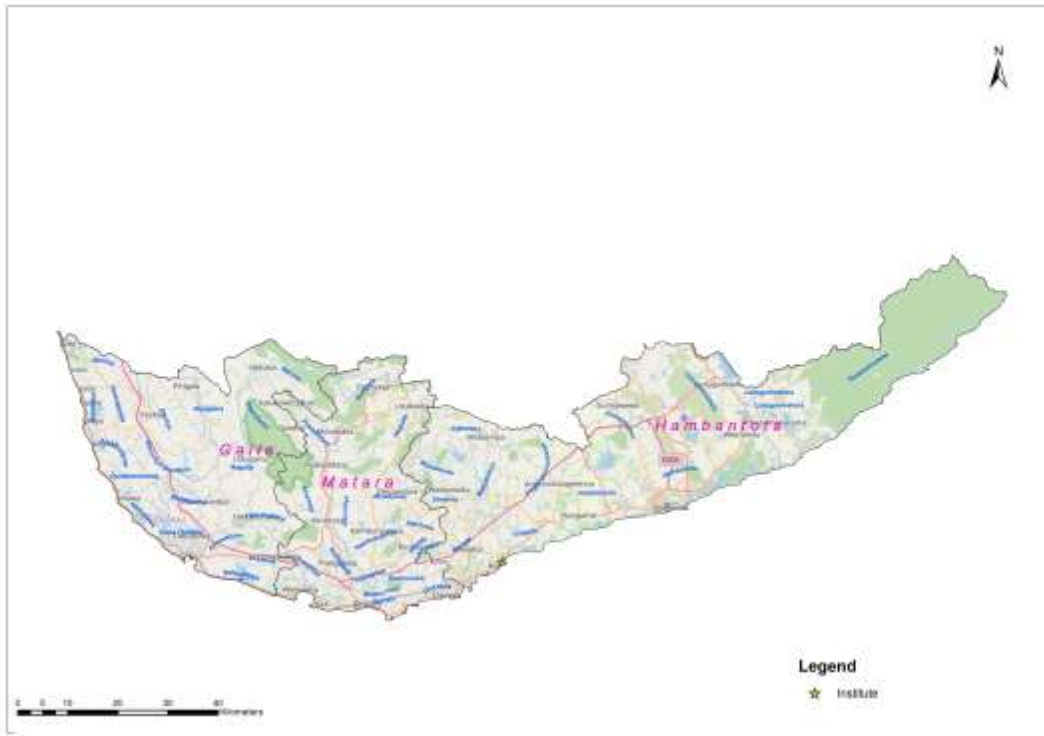
B05S003Q3L3(Scuba Diver)--Hikkaduwa DS Division



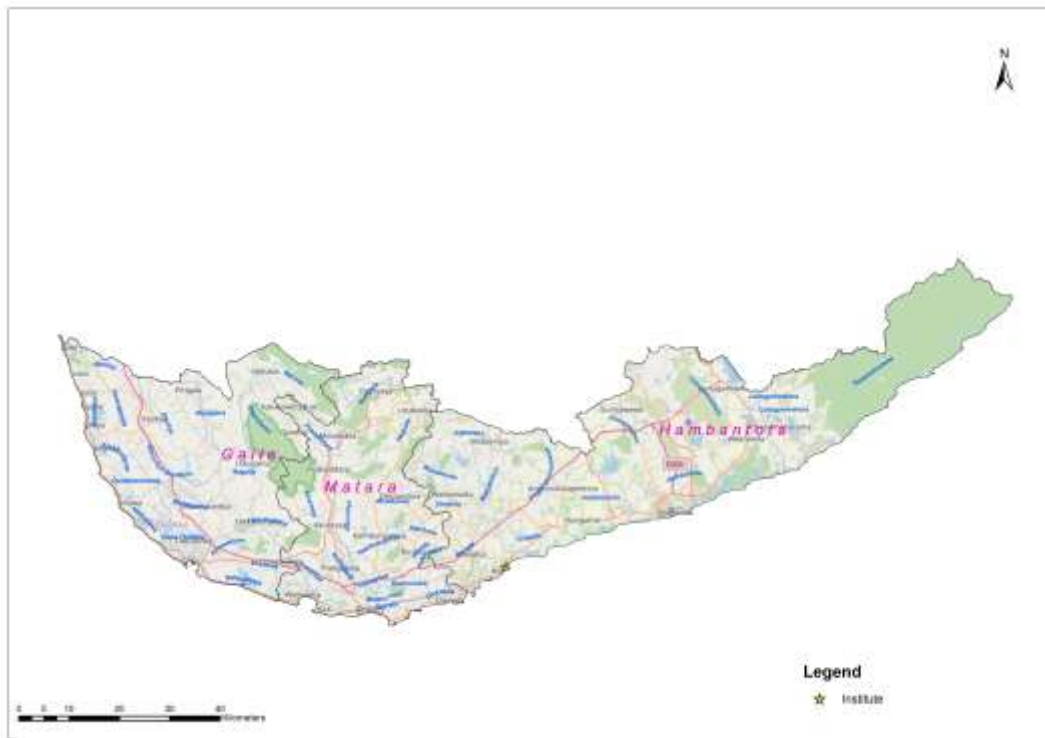
B05S003Q4L4(Scuba Diver)--Thangalle and Hikkaduwa DS Division



B05S004Q1L3(Aquaculture Technician)-Thangalle DS Division



B05S004Q2L4 (Aquaculture Technician)- Thangalle DS Division



B05T002Q1L5 (Aquaculture and Aquatic Resources Management)-Thangalle DS Division

In this research report, all other TVET sector occupations for which the National Competency Standards have been developed to award NVQs are published in Google Drive. It will hopefully play a significant role in guiding all NVQ seekers and interested parties. Course evaluation for the NVQ courses has been introduced as a project. It will be used in following scenarios

