NAMIBIA TRAINING AUTHORITY

SECTOR SKILLS PLAN

AGRICULTURAL SECTOR OF NAMIBIA (2013 – 2017)

FINAL REPORT (9 DECEMBER 2013)

INDEX

PAGE

FOREWORD ii

EXECUTIVE SUMMARY iii

1. CHAPTER 1: SECTOR PROFILE 1
1.1. NAMIBIA'S AGRICULTURAL POTENTIAL 1
1.2. DUAL NATURE OF AGRICULTURAL SECTOR 1
1.3. DIFFERENT FARMING SYSTEMS 2
1.4. EMPLOYMENT PROFILE 10
1.5. DRIVERS OF SKILLS DEMAND 10

2. CHAPTER 2: SKILLS DEAMND AND SUPPLY ANALYSIS 13
2.1. SKILLS DEMAND 13
2.2. SKILLS SUPPLY 19
2.3. SKILLS GAP 20

3. CHAPTER 3: ASSESSMENT OF VET PROVISION (SKILLS SUPPLY) 38
3.1. OVERVIEW OF EDUCATION AND TRAINING PROVIDERS 38
3.2. KEY SHORTFALLS AND CONSTRAINTS OF ATVET PROVISIONING 45

4. CHAPTER 4: STRATEGIC PARTNERSHIPS 44
4.1. PARTNERSHIPS TO INCREASE TRAINING CAPACITY AND QUALITY 46
4.2. OTHER STRATEGIC PARTNERSHIPS 47

5. CHAPTER 5: STRATEGIC PLAN 49
STRATEGIC PRIORITY A: PRIORITISE AND COMMUNICATE SKILLS NEEDS 51
STRATEGIC PRIORITY B: ALIGN SSP TO NATIONAL DEVELOPMENT PLANS 51
STRATEGIC PRIORITY C: INCREASE AND IMPROVE SUPPLY OF ATVET 52
STRATEGIC PRIORITY D: DEVELOPMENT AND AVAILABILITY OF COURSES 53
STRATEGIC PRIORITY E: ADDRESS SCARCE SKILLS & SHORTAGES 54
STRATEGIC PRIORITY F: ADDRESS SKILLS GAPS (CRITICAL SKILLS) 55

5.1. REFERENCES 58

ANNEXURE 1: PROPOSED ADDITIONS TO THE 2014 AGRICULTURAL CENSUS QUESTIONNAIRES TO ADDRESS SKILLS RELATED INFORMATION. 59

ANNEXURE 2: PROPOSED AGRICULTURAL QUALIFICATIONS BEING DEVELOPED BY PROVET

FOREWORD

TO BE WRITTEN BY THE CHAIRPERSON OF THE AGRICULTURE SECTOR SKILLS COMMITTEE (SSC)

EXECUTIVE SUMMARY

INTRODUCTION

The Namibia Training Authority (NTA) was established in 2008 to regulate the provision of Vocational Education and Training (VET) in Namibia by ensuring that VET programs and services meet Namibia's current and emerging business and industry requirements. In particular, the roles and responsibilities of NTA are to ensure increasing effectiveness and efficiency of VET in producing a competent and employable workforce for all sectors of the economy in Namibia.

In order for the NTA to develop and expand the provision of VET services for Agriculture, information on the labour market is important. Whilst a number of national reports exist that provide information on the Namibian labour market and skills needs, in their current form these reports do not inform the Industry Skills Committee for Agriculture and Forestry (ISCAF), concisely on the skills needs for the agricultural sector (i.e. needs by sub-sector, occupation, level etc). It is against this information shortfall that the Agricultural Sector Skills Plan (SSP) has been developed. It is believed that the SSP contains the labour market intelligence that the ISCAF needs to fulfil its task in advising the NTA on initiatives and interventions needed in the field of Agricultural Technical Vocational Education and Training (ATVET) towards meeting the occupational needs of the agricultural sector.

PROFILE OF THE AGRICULTURAL SECTOR

Despite being classified as a country with relatively low agricultural potential, agriculture plays a central role in the lives of Namibia's 2.13 million inhabitants and an estimated 70% of the population depends directly or indirectly on agrarian production for a portion of their income and/or livelihoods (especially rural households depend on subsistence farming to supplement food resources for food security purposes).

Namibia's agricultural sector displays a dualistic nature where a developed, technologically based and relatively productive commercial sector co-exists with a subsistence sector characterised by low productivity where manual labour and the use of traditional methods of production are still predominant. The different farming systems found in Namibia can be grouped and organised as follows:

- ***Small scale mixed farming*** (small fields of cereals and some vegetables, and small numbers of cattle and goats used largely for domestic consumption).
- ***Cattle ranching*** *(*large-scale commercial cattle farming for beef production on big farms in freehold and communal land, and on open access communal land).
- ***Small stock farming*** (small stock farming primarily means sheep and goat farming in semi-arid areas on large, exclusive freehold farms and in open access communal land).
- ***Commercial crop production and other intensive agriculture*** (commercial production of grains, vegetables and fruit and other largely high value commodities on farms by a few farmers using comparatively intense management, production techniques and specialist knowledge).

It is estimated that approximately **170 000 people** are actively engaged within the primary agricultural sector (approximately 40 000 in the commercial farming sector; and estimated 30 000 in the small scale emerging farming sector (producing for the market) and an estimated 100 000 or more participants involved in so-called subsistence agriculture).

DEMAND FOR SKILLS

For the purposes of this inaugural Agriculture SSP the sector focus and demarcation was confined to the demand for vocationally skilled labour; the focus was placed on the primary agricultural sector; and occupations of a generic and general nature which do not relate specifically to the agricultural sector were excluded. Against the above delineation the demand analysis focussed on the following key occupation groupings:

- ***Skilled Agricultural Workers (70 000 people):*** This is the largest and most important occupational grouping. Demand analysis focussed on the commercial and emerging farming sub-sectors and the skilled agricultural worker grouping includes the following types of occupations:
    - Farmers or growers/producers (for the different types of farming ventures most prominent in Namibia – the most important commodities produced were selected) (approximately 24 000 farmers/growers);
    - Skilled agricultural workers performing a range of production and harvesting operations on livestock, crop/horticultural and mixed farming enterprises – often under supervision (estimated 46 000 skilled labourers).
- ***Managers (300 people):*** Farm managers and foreman (taking care of farming operations on behalf of or in the absence of farm owners). Specific focus was given to the need for managers on those commercial and emerging farms where the owners are part-time or so-called weekend farmers.
- ***Machine Operators (2 000 people):*** This category confines itself to operators of machinery and equipment found specifically in the agricultural sector and includes occupations such as tractor drivers (including operation of equipment such as ploughs and discs); and operators of harvesters, fertilisers, balers, irrigation systems, etc. Such operators could be the farmers/growers themselves; could be dedicated operators and/or other skilled labourers specifically trained to perform such functions.
- ***Craft and Related Trades (3 000 people):*** Whilst there are not any specific occupations selected from this occupational grouping, a range of skills and competencies used by tradesmen in other fields have good application in the agricultural sector and on farms for a variety of maintenance and repair responsibilities – usually assigned to and undertaken by the farmer or by a designated skilled worker. In some instances (usually on larger commercial farms), there might be a dedicated worker (e.g. a Handyman) who will perform such functions. Examples of trade related skills needed on farms include mechanical maintenance and repairs (tractors, generators; water pumps); welding and metal work; building farm infrastructure; fencing; irrigation maintenance and repair, etc.
- ***Elementary Workers (16 000):*** This category refers to farm labourers who perform a variety of tasks and duties that are mostly of a simple and routine nature. Whilst the majority of skills can be obtained through on-the-job training, in some cases they could be better equipped for their functions through attending specialised vocational training courses. Examples of such job categories to be given attention include herders (livestock) and charcoal burners in the Forestry Sector.

SUPPLY OF SKILLS

An overall assessment of Agricultural Technical and Vocational Education and Training (ATVET) provision in Namibia shows that it is insufficient to meet the demand for such training in the agricultural sector. Shortfalls and constraints include:

- ***Inadequacy of capacity (institutions and infrastructure).*** Whilst the investigations identified a range of potential facilities and institutions that could possibly offer ATVET programmes in the future, such capacity does not exist at present and those institutions already offering and geared to this type of training have limited capacity. It is estimated that current capacity is approximately 500 ATVET opportunities or

places at any given point in time (whilst the demand is estimated to be more than ten times higher).

- ***Inadequacy of practical training facilities and equipment:*** The NTA has taken a decision to adopt the Competency Based Education and Training (CBET) approach to vocational training. This approach places high demands on the ability of training providers to provide practical training opportunities where trainees can develop, practice and demonstrate competence. In this regard few institutions will currently have such ability – facilities, equipment, machinery, practical farming land, farm animals to practice and experiment on, etc. A need exists for an extensive audit to establish what potential institutions have and/or need and to then take actions to create the required practical training ability and capacity.
- ***Inadequacy of programme / course range to supply all occupations demanded including scarce and critical skills:*** It is believed that the range of existing learning programmes on offer (both longer duration certificate or diploma type qualifications and short skills courses) do not meet the requirements in terms of adopting the CBET approach and training methodology and covering the range of skills needed as identified and outlined in the SSP. Stock has to be taken of the current programmes on offer and how the above shortfalls could be addressed. Alignment of course offerings with the quality requirements, qualifications framework and unit standards currently developed by NQA, NTA and ProVET will guide providers in this regard.
- ***Inadequacy of trainers' skills and experience:*** It is believed that very few of existing trainers have been trained and are experienced in CBET. A large demand thus exists to train and upgrade the existing trainer and instructor fraternity and to develop additional capacity to meet the identified demand.

On the positive side it must also be stated that a large number of potential institutions and facilities have been identified that could possibly be utilised and deployed as ATVET training providers and (associated) facilities. Further in-depth analysis and consultation with the owners thereof must be undertaken to establish the modalities for cooperation and the optimal utilisation of such potential capacity.

STRATEGIC PARTNERSHIPS

Chapter 4 of the SSP proposes various strategic training partnerships to be established and/or enhanced towards an increased ability to address the sector's training needs. Such partnerships could be between training providers and research institutes, with tertiary education institutions, with employers, with donors and with government. Because government has limited resources to carry out the very wide range of functions and tasks related to agricultural training, it is essential to establish efficient partnerships with various other role players to increase the reach and effectiveness of efforts aimed at agricultural skills development. Some of the most important proposed partnerships include:

- ***Partnerships aimed at increasing training capacity*** and to facilitate access to training and to enhance the quality of training programmes. In this regard partnerships are proposed with and between existing training providers to pool resources and thus increase national capacity. Partnerships are also proposed between training providers and selected farmers for the utilisation of their farms as training facilities where practical training could be provided (in line with CBET requirements). Joint ventures and partnerships between providers to share ability, capacity and expertise in undertaking the enormous task of training course development are needed. Such partnerships are also needed to avoid duplication and/or to identify areas of specialisation towards eliminating an over-supply in some fields and an under-supply in others.

- ***Other strategic partnerships*** aimed at creating linkages between training providers and the following stakeholders:
    - Research institutions (and/or input providers) to enhance a transfer of new technologies via the training fraternity to farmers.
    - Industry and employers in the agricultural sector to ensure feedback mechanisms regarding the relevance of training programmes on offer and the applicability of skills learned.

STRATEGIC PLAN

Chapter 5 of the SSP consolidates key findings and outlines a strategic action plan towards addressing skills needs in the sector. Those issues selected as priorities and which have been included in the Strategic Plan are the following:

- Strategic actions and plans towards prioritising needs and communication of such to stakeholders for consideration and action.
- Plans and activities towards training prospective workers (new labour market entrants) and existing workers aimed at addressing scarce skills and occupational shortages in the agricultural sector.
- Plans and activities for training to address skills gaps of the existing workforce (training to address critical skills through top-up training).
- Plans and activities aimed at increasing and improving the supply of ATVET.
- Plans and actions related to the development of new qualifications and programmes capable of addressing identified priority needs.
- Measures to ensure that the SSP is attuned relevant national strategies and development plans and will facilitate and enhance the implementation thereof.

CHAPTER 1: SECTOR PROFILE

This chapter of the SSP provides a descriptive overview of the agricultural sector in Namibia and reflects on its size, status, structure, scope and potential. The profile is developed in such a manner that it depicts the type and range of farming ventures found and the resultant employment profile of the sector. Attention is also given to the so-called drivers of skills demand and supply in the sector. This chapter provides the background and serves as the platform for the rest of the Sector Skills Plan.

1.1 NAMIBIA'S AGRICULTURAL POTENTIAL

Namibia is an arid to semi-arid country with only 8% of the country receiving an average rainfall higher than 500 mm per annum – considered a minimum for dryland cropping. High evaporation rates, spatial differentiations in water availability, major variations in annual precipitation and erratic rainfall influence and further impede production and farming conditions. However, despite being classified as a country with relatively low agricultural potential, agriculture plays a central role in the lives of Namibia's 2.13 million inhabitants and an estimated 70% of the population depends directly or indirectly on agrarian production for a portion of their income and/or living (especially rural households depend on subsistence farming to supplement food resources for food security purposes).

Namibia's agricultural sector comprises mainly of livestock rearing and crop farming. Crop production contributes to 24% of the overall agricultural output value, whereas the livestock sector contributes to more than 70%.

1.2 DUAL NATURE OF THE AGRICULTURAL SECTOR

Namibia's agricultural sector displays a dichotomous situation where a developed, technologically based and relatively productive commercial sector co-exists with a subsistence and/or small-scale sector characterised by low productivity and predominantly making use of low-technology methods of production. The commercial sector largely exists on title deed lands (freehold sector) while the small-scale sector mostly exists on communally administered state lands. This divide is a legacy of the country's colonial and apartheid history. It is worth noting that annual per capita income in subsistence agriculture was less than 6% of that earned by farmers in commercial farming. This calls for speedy reform in the agricultural sector to eradicate the dualism that exists.

1.2.1 THE COMMERCIAL SECTOR

Commercial farmland covers approximately 44% of the total land area and is home to 10% of the population. The commercial sector which is well developed, capital-intensive and market (including export) oriented, is found in various areas but largely comprises the southern two thirds of the country. There is presently an estimated 4, 500 commercial farmers on title deed lands. Statistics reveal that in 2012 approximately 37 million ha land was in the form of title deed ownership of which 25% (amounting to approximately 9 400 000 ha) was owned by so-called previously disadvantaged individuals and the state.

Commercial area livestock production accounts for almost 70% of national agricultural output and comes from 52% of the farming/grazing land. Beef cattle ranching are the largest contributor to commercial farming income, and the major breeds amongst commercial farmers are Brahman, Afrikaner and Simmentaller.

The commercial areas are divided into fenced ranches, further subdivided into a number of paddocks, through which some form of rotational grazing is normally practised. Compared to the communal areas, stocking rates tend to be more conservative (as an example it can be quoted that the stocking rate of 4.3 hectares per large stock unit in the Ovitoto communal area near Okahandja was three times greater than on adjoining freehold farms). Due to factors such as limited bush and tree cutting for fuel and fewer browsing animals, large areas of the medium to higher rainfall savannas have become severely bush infested, to the detriment of the grazing potential for cattle and sheep. In response, there has been a marked increase in game farming and wildlife tourism in the commercial areas, in recognition of the difficulties and consequences of farming with mono-specific (grazer) domestic stock. This sub-sector is also characterised by an increasing number of so-called "weekend farmers" – who are absent from the farm during the week (or even longer periods at a time).

1.2.2 THE COMMUNAL SECTOR

Communal areas comprise 41% of Namibia (48% of the total farming area) and represent approximately 60% of the population. These areas differ markedly from the freehold areas in their production systems, objectives and property rights – with only the cropping areas normally allocated to individual households, while the grazing areas are shared by members of a community. It should however be noted that there is an emerging trend of large fenced off exclusive ranches being established in the communal areas where a group of large and wealthy communal farmers are developing (whilst it should be noted that this is an illegal practice and government has made some effort to make people remove such illegal fences). Overall the communal sector is characterised and dominated by so-called subsistence farming enterprises (small fields of cereals, some vegetables and small numbers of cattle and goats used largely for own household consumption). These farms are low input - low output enterprises, based mainly on family labour with limited use of technology and external inputs. Whilst there are some exceptions and a significant number of communal farmers have substantial herds of cattle, the majority of communal farming household's cash income is derived from non-farming sources.

A manifestation of the above dualism within the agricultural sector, and the impact thereof on the agricultural vocational education and training system and the type and range of skills to be developed by the Agricultural Technical and Vocational Education and Training (ATVET) system, is best outlined in section 1.3 below where the different ***farming systems*** deployed in the various agricultural sub-sectors are described.

1.3 DIFFERENT FARMING SYSTEMS IN NAMIBIA

The Food and Agriculture Organization (FAO) suggests the following as a definition for farming systems: "A farming system is defined as a population of individual farms that have broadly similar resource bases, enterprise patterns, household livelihoods and constraints, and for which similar development strategies and interventions would be appropriate". The different farming systems of Namibia can be organized as follows:

- ***Small scale mixed farming*** (small fields of cereals and some vegetables, and small numbers of cattle and goats used largely for domestic consumption)
- ***Cattle ranching*** (large-scale commercial cattle farming for beef production on big farms in freehold and communal land, and on open access communal land.)
- ***Small stock farming*** (small stock farming primarily means sheep and goat farming in semi-arid areas on large freehold farms and on open access communal land).

- ***Commercial crop production and other intensive agriculture*** (commercial production of grains, vegetables and fruit and other largely high value commodities on farms by a few farmers using comparatively intense management, production techniques and specialist knowledge)

Please refer to the following Namibia Agricultural Map (next page) which provides a spatial overview of where the different agricultural systems are implemented and the major agricultural commodities are farmed with in Namibia.

The size and scope of each of these farming systems found in Namibia are as follows (2006 figures):

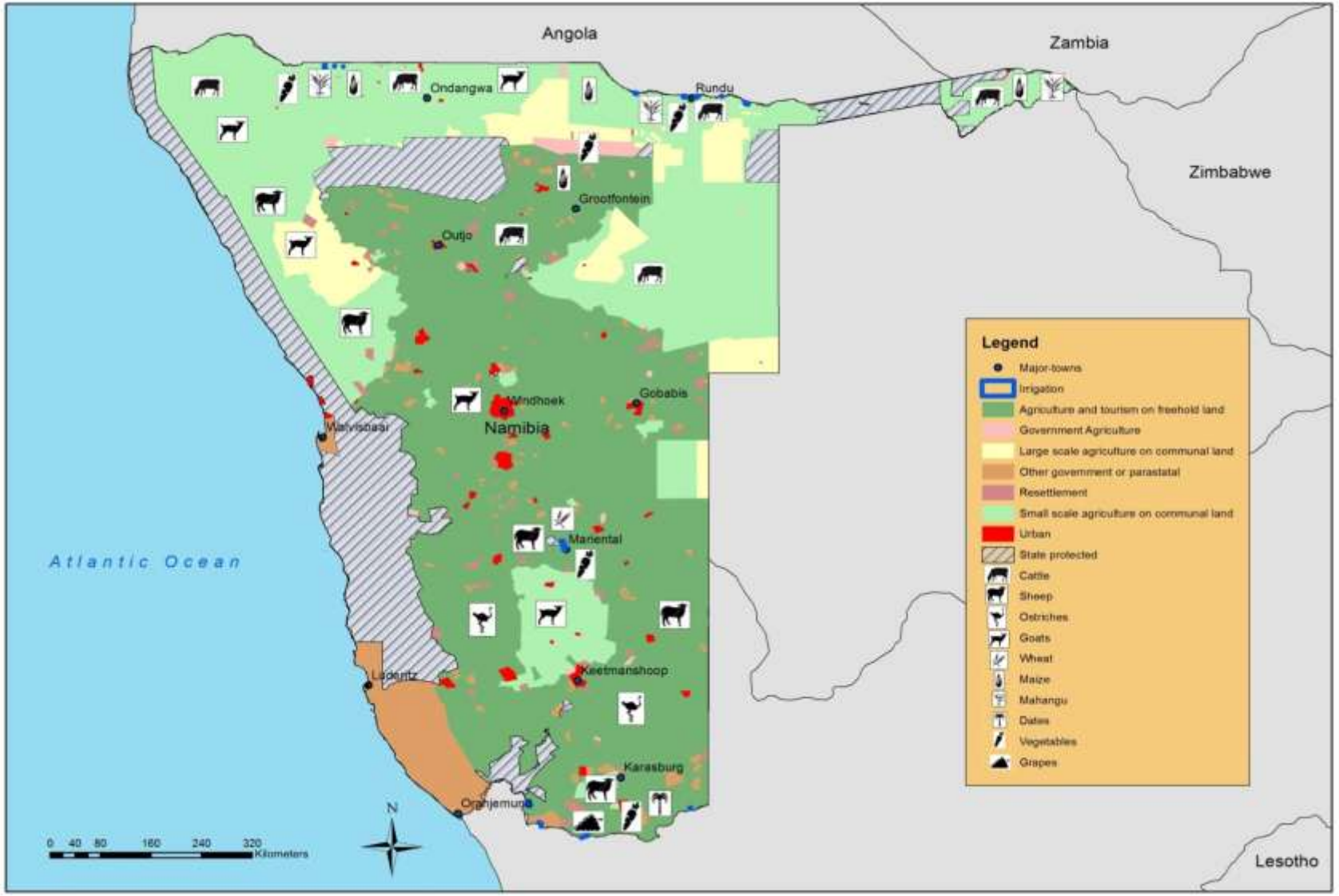
System	People	Goats	Sheep	Cattle	Area
Small-scale mixed farming (subsistence farming)	960,000	950,000	44,000	600,000	5,500,000
Cattle ranching	106,000	800,000	300,000	1,400,000	31,500,000
Small stock	67,000	650,000	2,100,000	180,000	27,000,000
Intensive crop and other agriculture	40,000	-	-	5,000	40,000
Total	**1,170,000**	**2,400,000**	**2,444,000**	**2,185,000**	**64,040,000**

1.3.1 SMALL SCALE MIXED FARMING

Many more people are engaged in this farming system than any other system in Namibia, and most live in a narrow zone stretching across the north from Omusati in the west to Caprivi in the east. There were about 152,000 farming households in this zone in 2006: These are the most densely populated rural areas of Namibia, and are home to about 1 000 000 people. There are approximately 10,000 households using this system elsewhere in the country, mainly in the communal areas of Otjozondjupa and northern Kunene, and on some resettlement farms.

The farming system is constrained by insufficient water and poor soil fertility in most areas. Without intense management and fertilizer applications, large areas of the Kalahari sands are not suitable for cultivation. Patches that have better rainfall and are more fertile have generally been farmed for decades, with the result that much of their original nutrient value has been lost. The farming system is one of communal land where farmers have exclusive rights to small crop areas that surround or are near their homes (these areas are often fenced, especially by households that can afford fencing). Livestock is largely grazed on open access commonage pastures and woodlands, from which people also harvest firewood and other natural plant products. Each farming unit is centered around a single household consisting of an average of 6-7 people. While different family members play greater or lesser roles, farming is largely a household pursuit, and it is usually difficult to pinpoint one person as 'the farmer'. Women do most of the work on arable land. Additionally, the number of people in a household has a direct bearing on the size of its farming enterprise since labour is hired only sporadically. This farming system produces a significant variety of products: three main cereals (mahangu, sorghum and maize), various vegetables, meat and milk. The great majority of farm produce is used for domestic consumption and very little produce is sold.

Figure 1: Namibia agricultural map



***Crops*:** Most households plant between one and four hectares each year (approximately 25% plant less than 1 ha per year with the majority between 1 and 2 hectares). In all regions there are also large expanses of fields that have been left fallow, usually because the soil is no longer fertile after several years of production. In Kavango West, Kavango East, and the Zambezi Region about 20% of all cleared land is cultivated while the rest lies fallow or abandoned. Most households also grow small quantities of vegetables or field crops such as beans, cowpeas, bambara and groundnuts, pumpkins, melons, tomatoes, leafy greens and cabbages. The gardens are usually within their cereal crop fields and close to their homes where the soils benefit from household waste and more frequent weeding and watering.

The above should be considered in the context that only in the north-central and north-east regions is there sufficient rainfall for rainfed cropping. There has been a steady increase in the area planted – with approximately 312,000 ha in 2012 (270,000 ha under mahangu cultivation). Grain production totalled 145,000 ton in 2011 (65,000 ton mahangu, 65,000 ton white maize and 15,000 ton wheat) which increased to approximately 165,800 ton in 2012 (both commercial and subsistence production).

Livestock: Livestock farming is dominated by goats and cattle, some poultry and then smaller numbers of pigs, donkeys and a very few sheep. It is popularly believed that every farmer has livestock, but a significant number of households have none. For example, more than half of all households have no cattle, pigs, sheep or donkeys, while about two-fifths do not have goats. About one-third of households have neither cattle nor goats. Amongst those who are livestock owners, most have fewer than 30 cattle and goats. In total, approximately 600,000 cattle and 950,000 goats are owned in this farming system. Farmers with the biggest herds of cattle are in Caprivi and Kavango.

Most people would consider this farming system to be a subsistence economy. Whilst it is difficult to estimate the exact levels of poverty and how many live below the poverty line, it is believed that for a third of the households engaged in this farming system, the income generated was less than half the value of an annual social pension. For the remaining majority (two-thirds), a larger proportion of their total income is derived from non-farming activities, in particular from the wages and pensions of family members, and from remittances sent by family members working elsewhere. In north-central Namibia on average more than 70% of total household income came from non-farming activities. Perhaps the most important point is that although the rural households engage in a variety of farming activities, most families rely largely on other sources of income and this predominant value of non-farming incomes raises the question whether these should be viewed as farming households (enterprises) or not.

1.3.2 CATTLE RANCHING

The main purpose of this farming system is the commercial production of beef. The system covers all of Otjozondjupa, much of Kunene, Omaheke and Khomas, the southern parts of Omusati, Oshana, Oshikoto and, Kavango East and Kavango West, and eastern areas of Erongo. Approximately 315,000 square kilometres, or 38% of Namibia, is used for cattle ranching. Cattle ranchers therefore either have big, fenced farms or graze their animals over large expanses of open, communal grazing. Water is a critical resource. The great majority of cattle obtain their water from underground sources pumped into reservoirs and drinking troughs, or from thousands of small dams constructed on ephemeral rivers and streams.

Cattle are farmed for beef on a substantial scale in ***three distinct areas of land tenure***.

- The **first** and most widely recognized is the extensive, ***freehold, titled cattle ranches*** that cover much of central Namibia. There are about 2,400 of these farm units (ranging in size from approximately 7,000 hectares per farm in traditionally recognised "commercial farming areas" to farm units averaging less than 1,000 hectares in the former Rehoboth district). Approximately 11,000 households and 47,000 people live on, and are largely supported, by these farms. Farmers generally have good information on how to manage pastures and water supplies, optimise reproduction, treat diseases and market their beef. Although an estimated 25% are so-called 'weekend farmers', they (and the majority full-time farmers) have generally been farming for many years and many of the white farmers come from farming backgrounds, having been raised as the sons and daughters of commercial beef producers. The majority have had some tertiary education, often in agriculture.
  While labourers on freehold farms have generally had little formal education, the majority have gained considerable practical expertise over years of employment. Each farm employs an average five to six labourers who live there with their families, usually consisting of four or five dependants. A further characteristic of these farms is that many have commenced to also view the game on their farms as a source of income and have actively pursued the integration of ***game farming*** with their cattle farming. This is closely linked to agro-tourism and hunting and various types of safaris - which is a growing industry in Namibia with very good potential.

- A **second** category comprises the farms that have been fenced off into ***exclusive ranches in communal ar***eas, each of which ranges between approximately 1,000 and 8,000 hectares. Some were demarcated by the previous government and allocated to farmers between the 1960s and 1980s to encourage commercial agriculture in communal areas. There are about 300 farms of those original farms in the Mangetti Block of Oshikoto and Kavango, and the Okamatapati and Rietfontein areas. At least 700 new farms have been established since independence in Caprivi, Kavango, Oshikoto, Omusati, Otjozondjupa and Omaheke. There are an estimated 5,500 households and 35,000 people associated with these farms (estimated 1 000 farms).

  Whilst historically beef was not produced on a substantial scale on most of the approximately 1,000 large, fenced farms on communal land, many are now being developed and in due course all these farms should become important contributors to Namibia's beef industry, especially once the shifting of the veterinary cordon fence opens up local and export markets for their beef. Around Okamatapati and Rietfontein in eastern Otjozondjupa, and Omaheke about 100 or more ranches already produce beef on a substantial scale.

  The owners of all the exclusive farms are typically wealthy people with significant local status. Many are civil servants, political figures or self-made businessmen who derive most of their income from non-farming activities. They seldom live on their farms. Few have received agricultural training. In short, these are new farms owned by a new generation of entrepreneurs pursuing business enterprises new to communal land. It can generally be said that they are in need of skills and/or skilled labour who could provide management/supervisory and technical/production inputs.

- The **third** group is made up of farmers using open access grazing on ***communal*** land, most of which is in northern Kunene, eastern and northern Otjozondjupa, northern Omaheke and the Aminuis Block. Here an estimated 3,600 households and people are probably directly involved in ***commercial*** beef production. Little infrastructure is available for cattle farming in these open access communal areas. Water is supplied from boreholes, most of which are found at widely separated points close to villages. All people and all livestock share the water points, causing a concentration of overgrazing and trampling close to the water along with health risks to the local community. Cattle herds are generally managed on an informal basis (at least compared with the herds of conventional commercial beef producers). Limited efforts are made to monitor pregnancy, calving and growth rates, or the fertility of bulls and cows. Herds expand when grazing is good, but then reduce drastically when grass or water is in short supply. Stocking rates are often high, causing severe overgrazing. For example, the stocking rate of 4.3 hectares per large stock unit in the communal areas near Okahandja was three times greater than on adjoining freehold farms. Calving rates are seldom above 50%, and mortality rates range from 10 to 20% per year. Most losses are caused by disease due to malnutrition – making the cattle susceptible to infections. Cattle are slaughtered usually beyond the optimal age causing huge productivity and income losses.

Whilst it might have been logical to distinguish the above three farming systems for cattle: open access communal land; exclusive ranches in communal areas; and freehold farms, it must be noted that differences are fading as more farmers in communal areas (illegally) fence off big ranches and are commencing to farm more as commercial producers than cattle owners in open access rangelands. Well developed marketing systems of auction pens, traders and farmers' associations now serve many of their needs. Many of these farmers are increasingly adopting animal husbandry practices that were rare or absent in communal areas 10 or 20 years ago. These include castrations, dehorning, vaccinations against disease and the treatment of sick animals using veterinary medicines. The composition of herds is more controlled. Supplementary licks may be provided. Local associations have been formed to support farmers. Most importantly, farmers are beginning to realize the importance of marketing their cattle. These developments hold considerable implications for the demand for training amongst so-called "communal farmers" – whose training needs were largely neglected in the past.

1.3.3 SMALL STOCK FARMING

In the Namibian context small stock farming primarily means sheep and goat farming in semi-arid areas on large, exclusive freehold farms and in open access communal land. Most production is sold, both locally and to South African markets as live animals.

Much of southern and western Namibia is used for small stock farming. This is a semi-arid area lying between true desert to the west and savanna woodlands to the east and north. The farming system covers about 33% of Namibia, and extends over most of Hardap, Karas, much of Erongo, south-western Kunene, and small parts of southern Khomas and Omaheke. Farming revolves to a great degree around the availability of water. Homesteads and kraals are sited at water sources, which are generally boreholes using windmills or diesel pumps to supply water to reservoirs and drinking troughs.

A total of approximately 16,000 households and 67,000 people form part of this farming system, which occurs within **two land tenure areas** - each of these might be regarded as a farming system in its own right:

- The ***first*** land tenure category consists of approximately 2,000 ***freehold farm*** units. These 2,000 owners employ approximately 7,600 labourers, at an average of 3 - 4 workers per farm unit. About 10% of all labourers are employed on a temporary or casual basis. Most of the farm units are large, ranging from 7,000 to 15,000 hectares. Farming provides most freehold farmers with their sole or main source of income. On average, the majority of the farmers have high levels of education, most having completed some technical or academic training at a tertiary level
- The ***second category*** consists of small stock farming on ***communal land*** involving approximately 6,300 households (representing an estimated 27 000 people). Most of these households exist in a state of severe poverty. Most of these farmers have small flocks of goats and sheep, and a few cattle. More than half of these households have less than 100 goats, more than two thirds have less than 50 sheep, and more than three-quarters have less than 10 cattle. Woman are often the head of these households and the majority of adults have little or no schooling (thus limited literacy and numeracy ability). The majority of these farming households are also dependent on other forms of income – such as pensions and remittances. However, as indicated earlier, the communal areas are also farmed by a number of much wealthier farmers who have hundreds of animals. They make up perhaps 10-15% of all farmers, and many are absentee or weekend farmers.

1.3.4 COMMERCIAL CROP PRODUCTION AND OTHER INTENSIVE PRODUCTION

This section addresses commercial production, largely of high value commodities on small farms by a few farmers using comparatively intensive production systems demand high levels of management and specialist knowledge. In contrast to the other farming systems discussed, covering large expanses of the country and involving considerable numbers of farms and farmers, this system is one of intense, mostly skilled agriculture, each farmer usually specialising on one kind of crop or livestock e.g. dairy, pigs, poultry, ostriches, grapes, olives, dates, flowers, paprika, vegetables, fruit, maize and wheat as a commercial crop or product. Many products are exported or consumed by a fairly select local market.

The total number of farmers involved with intensive agriculture is small, perhaps numbering no more than **500 people** farming on roughly 26,000 hectares. Of this area two-thirds are planted with white maize. The remaining areas used for other commodities are small, usually less than 1,000 hectares for each type of crop or livestock. Labour inputs are substantial with various reports suggesting that on average there are two employees per hectare on farms deploying very intensive production systems (for example grapes, fruit and vegetables). Based on these assumptions, approximately **7,000 people** earn their living from this farming system (excluding seasonal contract workers – with a reported 4,500 seasonal workers in the grape sector alone). A rather high level of specialist knowledge concerning production and marketing is often required to be a successful intensive farmer. In addition to a relatively high labour cost, other costly inputs are water and electricity, fertilizers, agricultural machinery, fuel, pesticides, seed, packaging and transport to markets.

Examples of intensive farming systems are:

- ***Vegetables*** - a variety of vegetable crops are grown commercially using intensive production methods, usually under irrigation. Onions, cabbage, tomatoes and potatoes predominate, while significant quantities of carrots, butternut, green maize, pumpkins, asparagus and beetroot are also grown. With regard to horticultural fresh produce, the NDP3 focused on the production of fruit and vegetables sold in the domestic market in order to reduce imports, as well as the export of high-value crops with international market appeal such as grapes and dates. To this end the National

Horticulture Development Initiative was established which aims to increase the share of locally produced fruits and vegetables in the domestic market. It is estimated that approximately 65% of the horticultural fresh produce consumed in Namibia is imported from South Africa. Total Namibian demand for 2010 was estimated at approximately 120,000 ton of which an estimated 56,000 ton was produced in Namibia. According to field data collected by the Namibia Development Corporation (NDC) the country's total production output potential is however estimated at 134,470t per year. Good progress is being made to increase local share of the market with an increase from 32% in 2010 to 37.5 % in 2011. Of the above-mentioned horticultural production volumes, commercial farmers (constituting 22% of all producers), supplied 73% of total production whilst small-scale producers (representing 72% of all producers) only produced 15% of total production. Government farmers and projects make up the remainder. In order to increase agricultural fresh produce production and productivity as envisaged under NDP3 and Vision 2030, the MAWF developed the Green Scheme Project (GSP) in 2003. Presently 9,000 ha along the Orange River in the south and the Kunene and Kavango Rivers in the north are subject to irrigation under the GSP. This initiative is still enjoying priority status under NDP4 and the Ministry has set itself a target of putting 27,000 ha of land under irrigation over a 30 year period.

Marketing is one of the greatest constraints experienced by local farmers at present and it is difficult to compete with produce from South Africa. Various policy initiatives are underway to address such constraints – of which the Namibia Horticulture Market Share Promotion system (which places a partial constrain on imports by requiring that wholesalers buy at least 12% of their vegetable and fruit stocks from Namibian farmers) is an example.

- ***Wheat and Maize*** - wheat does best under irrigation in the cooler southern areas, and much of the country's production is at the Naute and Hardap Dams, while smaller areas are cultivated at "Green Scheme" agricultural projects in Kavango. Approximately 1,000 ha is under production – meeting 10% of local Namibian demand. White maize is planted on approximately 20,000 ha in the so-called Tsumeb-Otavi-Grootfontein 'Maize Triangle'. Dryland maize production is risky with crops failing in three of every eight years as a result of inadequate rainfall.
- ***Mahangu*** - while as many as 150,000 households grow mahangu for domestic use, the number of commercial mahangu producers remains small at estimated 50-100 growers. Mahangu has been declared a 'controlled crop' to protect it from competition from imported cereals, and to guarantee producers that they will be paid prices equivalent to those for white maize (the other controlled crops are white maize, wheat, vegetables and fruit).
- ***Grapes*** - the majority of Namibia's grapes are grown on irrigation schemes along the Orange River. Close to 2,000 ha will soon be under planting (providing job opportunities for approximately 5,000 permanent and as many as 10,000 seasonal workers).
- ***Dates*** - Namibia is the largest date producer in Southern Africa with approximately 156 hectares under production (demanding a pool of approximately 300 trained employees).
- ***Dairy farms*** (total of approximately 25 commercial dairy farms).
- ***Poultry farms*** - whilst most subsistence households have a few free ranging chickens, there are a number of large commercial poultry (broilers and layers) producers in the country – usually located close to the larger cities and towns.
- ***Ostriches*** - there were 11,700 ostriches being farmed in 2005, mainly in Hardap and Karas – it is believed that this figure has since reduced.

The majority of intensive farming units are clustered in places where there is sufficient water for irrigation: near the Orange, Okavango, Zambezi and Kunene Rivers, below the Naute and Hardap Dams; and above underground aquifers at Stampriet, Hochfeld, the Tsumeb-Otavi-Grootfontein 'Maize Triangle', and along the Swakop, Hoanib and Omaruru Rivers. In total approximately 9,000 ha is under irrigation (of which a one-third is used for white maize production). Most dryland maize and sunflower is grown in the Maize Triangle because of the presence of relatively fertile luvisol soils and higher rainfall.

1.4 EMPLOYMENT PROFILE

The employment profile of the agricultural sector is addressed in detail in Chapter 2: Demand and Supply of Skills – since it forms a natural component of the debate on the type and range of occupations and occupational skills needed by the sector.

1.5 DRIVERS OF SKILLS DEMAND

This section considers those factors that are driving labour and skills demand and supply in the agricultural sector. These include government priorities, policies and strategies; industry competitiveness, technology development, etc.

1.5.1 GOVERNMENT POLICIES AND STRATEGIES

The following are key policies and strategies to boost the vocational education and training as well as the agricultural sectors and which must be considered in terms of its impact on the demand and supply of skilled labour for the sector:

- **Vision 2030.** The Vision aims to transform Namibia into a healthy and food-secure nation, where its people enjoy high standards of living, a good quality of life and have access to quality education. Amongst others the Vision places great emphasis on skills development and capacity building to transform Namibia into a knowledge-based society. The Vision also identifies agriculture as one of four strategic areas to receive special focus and attention. Within the Vision's education and training sphere the following are key developments and strategies that impacts on the ability to respond to skills development needs:
    - ***ETSIP (Education and Training Sector Improvement Programme):*** ETSIP's aim is to improve the quality, range and threshold of skilled labour required to improve knowledge-driven productivity and economic growth. Amongst others focus is placed on vocational education and training.
    - ***The National Human Resources Plan (NHRP) 2010 -2025:*** To assist in projecting the demand for labour, and to respond to the current structural mismatch between skills and available jobs in the country, the Government of the Republic of Namibia formulated the NHRP. The Plan aims to forecast the demand for, and address the skills deficit alongside the need to diversify the economy. It thus sets targets for the respective sectors towards addressing unemployment and skills shortages.

- **National Development Plan 4 (NDP4):** The government is committed to continue to support agriculture as a strategic sector over the NDP4 period due to its growth and employment-generation potential. Government interventions in the sector will continue to be substantial aimed at achieving a 4% annual growth over the period. Over the entire Medium Term Expenditure Framework (MTEF), spanning 2011-14, the government plans to invest about N$ 3.6 billion into the development of the sector. Key initiatives include:

- Targeted Intervention Program for Employment and Economic Growth ***(TIPEEG).*** The Namibia Government has targeted the high unemployment rate as one of its key development programmes. It has launched TIPEEG which aims to create and preserve a total of approximately 100,000 direct and indirect job opportunities over the period 2011/12 to 2013/14. In this regard the agricultural sector is earmarked as one of the four key sectors with high employment creation potential and the above investment aims to create an expected 26,000 job opportunities in the agricultural sector. The agricultural programme comprises five distinct sub-programmes and the expected high level outcomes of the programme will be an increase in the number of land under irrigation and improved crop production; an increase in the number of cattle slaughtered at abattoirs; significant removal of invader bush; and secured water supply for agricultural produce.
- Continued promotion and expansion of the ***Green Scheme*** – it is planned to expand the current 9,000 ha and a target has been set to put 27,000 ha of land under irrigation over a 30 year period.
- Increased investment in ***agricultural training***. The next three years will also see N$35,9 million being invested into the training of small scale irrigation farmers (trainees at the Mashare Irrigation Training Centre (MITC)), training materials to the value of N$69 million will be made available, etc.
- Two markets were established at a cost of approximately N$ 250 million abd a further amount of N$82 million is earmarked for the **National Horticulture Development Initiative** over the MTEF period. This project aims to increase the share of locally produced fruits and vegetables in the domestic market. This includes the establishment of agricultural fresh produce markets.
- Initiatives to increase the land's ***carrying capacity*** for livestock (e.g. via improved land resource management and a de-bushing programme) and getting the northern communal areas (NACs) free of foot and mouth disease
- Expanding ***traceability systems*** countywide to improve livestock marketing
- The establishment of ***agricultural infrastructure*** and research stations.

- **The NTA:** The establishment of the National Training Authority (NTA), the National Qualification Framework (NQF) and the National Training Fund (NTF) provides the institutional and enabling environment for the supply of Agricultural Technical Vocational Education and Training (ATVET). Of particular importance is the work undertaken by ProVET (the Promotion of Vocational Education and Training Project) of the NTA which is currently developing unit standards and vocational qualifications for the agricultural sector. The National Training Fund (established via the training levy) will also create an enabling environment through making funding available to subsidise ATVET programmes. In this regard discussions with relevant stakeholders revealed that the agricultural sector (and specifically training aimed at enhancing the capacity of emerging small scale farming enterprises) will receive high priority and status and will be viewed favourably for so-called "key projects" funding from the discretionary funds.

1.5.2 OTHER DRIVERS

- **Land Reform:** Land reform has an impact on the type and scope of training needs to be addressed. As indicated earlier many of the new land owners (of commercial farms) who are from previously disadvantaged communities will not have had the exposure and experience and/or knowledge to make optimal use of their newly acquired land. This could have implications for national food security and these target population groups will have a high demand for training and other capacity building services.

- **Environmental Drivers:** The level of land degradation especially in the communal areas as a result of over-grazing, overstocking and overuse of fragile sandy soils is very high. Bush encroachment in cattle farming areas has also become a serious problem demanding urgent attention. The training of farmers on sound environmental best practices and means to reverse degraded areas is very important.
- **Technological Development:** An urgent need exists to train farmers engaged in the subsistence agricultural sector to implement new technologies and production methods. Research has revealed that the manual labour used on the majority of these farming ventures (e.g. manual ploughing) is so demanding and time consuming that these farmers can not break the poverty cycle. Mechanisation schemes to assist such farmers, and the training of farmers to optimise new production technology is thus essential.
- **Farmer attitudes towards training their workers:** The SSP research revealed differing views on how farm owners perceive the need, importance and potential contribution and impact of training for their workers. In this regard the commercial farmers consulted during the Grootfontein Farmer workshop was very positive regarding the need for training and the potential contribution that training makes towards improved farm productivity and profitability – as such they predicted a good demand for training from the commercial farming sector. On the other hand it was also reported that many commercial farmers do not want to send their workers for structured training courses (and/or to upgrade their qualifications) since it is believed that once trained, such employees will inevitably demand increased salaries and/or search for better jobs. This approach obviously bode very negatively for the introduction of Recognition of Prior Learning (RPL) in this segment of the sector. Such negative perceptions obviously reduce the demand for training and should be addressed and corrected.
- **Employment conditions on farms**: A further factor which might influence the demand for training is the negative perception of agriculture as a career option that exist amongst many of the youth. The effect and impact of reported poor working conditions within the farming sector (refer section 2.3.1.3), coupled to a perception that there are not good career opportunities and a career path within agriculture, is that the better potential job entrants rather seek employment in other sectors. Good training programmes which will provide people with the skills needed to progress and advance within their careers could make a valuable contribution towards changing this negative perception of agricultural careers.

  It is also important to act against those farmers who do not honour and respect the labour laws and the collective bargaining agreements regarding minimum wages and working conditions set for the agricultural sector. In this regard the agricultural sector is only one of three sectors in Namibia that has a set basic level of pay attained through collective bargaining. In addition the real facts regarding total remuneration packages received by farm workers need to be communicated and publicised more widely to counter negative reporting. In this regard a remuneration survey undertaken by the Namibia Agricultural Employer's Association in 2012 revealed that farm workers also receive so-called food allowances or rations in addition to their wages – which according to the survey increased the average monthly monetary remuneration to N$ 1,450. When other fringe benefits found on most farms (e.g. free housing, free transport of children to school, free transport to clinics, annual bonuses, keeping of cattle and small stock on the farms, etc.) were also taken into account the average total remuneration package on commercial farms (including such fringe benefits) amounted to almost N$ 2,800 per month. This compared favourably to the remuneration received by labourers in most other sectors in Namibia.

CHAPTER 2: SKILLS DEMAND AND SUPPLY ANALYSIS

This chapter describes the skills that are required ***(demand)*** in the agricultural (farming) sector and compares it to the skills available ***(supply)*** towards determining the skills gap that needs to be addressed via a variety of training interventions and programmes.

2.1. SKILLS DEMAND

Skills demand manifests itself in any of the following ways:

- As labour shortages (regardless of skills levels, a situation exists where there is simply not enough supply of labour to meet demand). With the high unemployment rate in Namibia this is generally not relevant for now.
- As recruitment difficulties (e.g. farms and other enterprises in the agricultural sector experience difficulties in recruiting people with the required skills. However, it should be noted that recruitment problems in the agricultural sector could also be as a result of negative perceptions of employment in the sector (e.g. perceived poor working conditions and/or sub-standard remuneration).
- As skills gaps (those currently in work – both farmers and their employees – do not have the requisite skills to perform their tasks to an optimum or expected standard).
- As skills shortages (the required skills (as related to a full occupation or job) are in short supply when compared with the demand across the labour market - .e.g. a national shortage of veterinarians).

Needs identification from a Stakeholder / Beneficiary perspective

The identification and prioritisation of skills needs must also be undertaken from a key stakeholder and beneficiary perspective. Consideration was subsequently given to skills needs of the following groups:

- The *unemployed* – helping them gain and/or regain employment.
- The *economically inactive* – helping those who have not yet joined the labour force (or need re-entry into the labour market) to become economically active.
- *School leavers* – helping them gain access to vocational education and training opportunities to increase their employability and facilitate their entry to the job market or for self-employment.
- Those *currently employed* in the sector – increasing their competency and opportunities for advancement, creating a career path and offering continued job security, enhancement of value adding to the sector, improving their candidature for better employment opportunities.
- *Organisations and enterprises* within the sector – making sure that skills development and knowledge creation occurs in such a way as to improve their (and the sector's) viability and allow companies/enterprises to become more sustainable and profitable and improves their productivity, competitiveness and innovation.
- *Government and the economy* – increasing employment and promoting sustained economic growth, facilitate the attainment of political goals.

In **organising and reporting** the identified priority skills development needs it is important to take cognisance of the sector structure and to distinguish between the following needs:

- ***General / Generic skills*** development needs (cross-cutting over different target groups)
- Needs within the ***commercial agricultural sector*** (both farmers and their employees)
- Needs experienced by ***small scale farmers*** (this group includes new emerging land reform beneficiaries and smallholder farmers and some communal farmers who aim to produce surpluses for the market)
- Needs of the so-called ***subsistence farmer group*** (this group includes the majority of farmers in the communal areas and is categorised by farmers who do not produce for the market).

2.1.1 SECTOR DEMARCATION AND FOCUS AREAS FOR THE PURPOSES OF THIS SSP

As per agreement (and as reflected in the Terms of Reference for developing the SSP) this inaugural Agriculture Sector Skills Plan will have the following as its demarcation scope and ambit:

- It will focus on the demand for ***vocationally skilled labour*** (and thus vocational skills provisioning) only. This implies that this SSP excludes professional and other job categories where the essential knowledge and expertise is obtained by means of tertiary education and professional qualifications to be attained from tertiary institutions such as UNAM, foreign universities and the Polytechnic of Namibia. Examples of vocational categories thus excluded are Agricultural Economists, Agricultural Engineers, Veterinarians, Veterinarian Technicians, Livestock Inspectors, Agricultural Scientists, Foresters, Forestry Technicians, Agricultural Scientific Officers and Technicians, etc.
- It will focus on the ***primary agricultural sector*** only. The scope and ambit will thus limit itself to the type and range of occupations and activities that takes place "on the farm". Whilst produce related processing and value adding activities that take place on the farm are included, occupations involved in the secondary agricultural sector (processing and other activities taking place up-stream or down-stream of the farm) have been excluded. Growing for landscaping or ornamental gardening is also excluded. Examples of vocational categories thus excluded are Food Technologists, Millers, Auctioneers, Processing and Extraction Operators, Sales Representatives, Gardeners, etc.
- It will ***exclude occupations*** that are of a ***general or generic nature and which do not relate specifically to the agricultural sector***. In this regard it was decided to concentrate on those occupations and skill requirements that only specialised and specifically geared agricultural vocational training institutions and providers could and would provide. As a result the more generic occupations and skills which did not get attention (but which may be found in the primary agricultural sector) include the following:
    - Service and administrative related occupations such as clerks, administrators, sales staff, human resources staff, drivers (who could receive their training at non-agricultural related training institutions).
    - Trades and other technical and engineering related occupations such as mechanics, builders, electricians, refrigeration mechanics, etc. (who will receive their training at non-agricultural related training institutions such as the VTC's).

2.1.2 CURRENT EMPLOYMENT IN THE SECTOR

Due to the informal nature of the subsistence agricultural sub-sector, it was problematic to obtain accurate employment statistics for the agricultural sector – with different sources providing contradicting figures. As an example it has been widely reported that employment in Namibia's agricultural sector is very susceptible to external factors (including weather and climatic changes) and that the sector has shed close to 90,000 jobs (a 49% decline in employment) during the 10 year period between 1997 and 2008. This is both alarming and inexplicable when considering that income generated by the sector has increased during said period. To help understand this state of affairs a further analysis (and a comparison) of the various National Labour Force Surveys was undertaken for the above period (Mwinga 2012) which suggests a poor coverage and an under-recording of the subsistence farming sector during these surveys and which supports the assertion that the reported "decline" in agriculture's share of employment did not actually occur and the drop in reported employment can primarily be ascribed to different approaches used (and mistakes made) in measuring and accurately reflecting the size and contribution of the subsistence sector. This example is quoted as an illustration of the difficulty to obtain accurate and reliable labour related statistics for the agricultural sector (and specifically the size and scope of communal subsistence farming).

It must be stated that the 2012 Labour Force Survey (LFS), undertaken by the Namibia Statistics Agency, unlike in previous years, consisted of eight prompt questions in addition to the standard question about work for pay, profit or family gain that will help to identify those who are employed. These questions enquired specifically about running a business for him/herself; helping without pay in a household business; doing work on a household farm, plot or the like; collecting water or wood for household sale; catching animals or collecting food for household consumption. Against the above it is thus believed that the 2012 LFS has captured the subsistence farming sector much better than in previous years. The 2012 Labour Force Survey puts the employment figure for the agricultural sector at **172,530 people** (27.3% of the total labour force which totalled 630,000 people in 2012). Related to the agricultural sector the Survey estimates the number of **subsistence farmers at 100,000 farmers** and further suggests approximately 38,000 unpaid family members who are most likely engaged in the subsistence farming sector and could thus be added to the above group).

The LFS unfortunately does not provide a further occupational breakdown of the agricultural sector – which is needed for the development of a Sector Skills Plan that can make recommendations at occupational level. We thus had to make use of various other sources and expert opinions towards developing the following sub-sector employment profile (please also refer to Chapter 1 for information on the various farming systems and the number of people engaged in each):

- Approximately **4,500 commercial farmers** (who according to NAU employ approximately **35,000 farm workers** on such farms (estimated 25,000 skilled and 10,000 unskilled)
- An estimated **10,000 small scale farmers** who approach farming as a business and who are producing for the market (this group includes resettlement farmers, new black farmers who bought commercial farms, farmers linked to Green Schemes, farmers on Group Resettlement Farms, and selected farmers in the Communal Areas (usually those on fenced land). It is believed that these farmers provide employment for a further estimated **20,000 workers** (skilled and unskilled farm workers)

It should be noted that during meetings with the Ministry of Agriculture, Water and Forestry (MAWF) and other stakeholders the opinion was expressed that the number of people who engage in some form of subsistence agriculture is believed to be in the region of 200,000

people. In this regard an Agricultural Census will be undertaken in 2014 – which will only focus on the agricultural sector and as such should provide detailed statistics for the sector as a whole and which could be used to update and improve on the rather limited occupational breakdown information used in developing this first Agriculture Sector Skills Plan. The planned census will also serve to confirm the exact size and scope of the subsistence farming sector.

2.1.3 PROJECTIONS OF NUMBER OF SKILLED PEOPLE NEEDED

The NDP4 gives priority focus to agriculture as one of the economy backbones and its potential to create a substantial number of jobs. A targeted growth rate of 4% per annum over the NDP4 period has been set for the agricultural sector – which implies a considerable growth in the demand for skilled labour. To assist in projecting the demand for labour, and to respond to the current structural mismatch between skills and available jobs in the country, the Government of the Republic of Namibia formulated the National Human Resources Plan 2010–2025 (NHRP). The NHRP aims to forecast the demand for skills and provides proposals to address the skills deficit. The NHRP is largely based on Namibia's Occupational Demand and Supply Outlook Model (NODSOM) which allows forecasting of occupational gaps over time with the objective of providing an integrated accounting framework to analyse the status and evolution of the labour market. By quantifying occupational gaps, NODSOM provides useful clues with regards to identifying and understanding major labour market trends and issues requiring policy attention.

At present the NODSOM forecasts unfortunately only deal with the first tier or level of occupational groups (the so-called 1-digit classification groups which is the main 9 occupational groupings – refer table 2.1 below) in identifying and reporting on the gap between the demand and supply of skilled labour. Whilst it thus provides some assistance and guidance, it is not sufficient for the purposes of developing a Sector Skills Plan (SSP). For SSP purposes occupational demand (and skills needs) should ideally cascade down to specific occupations in the industry – which requires considerably more detailed information and statistics at the specific occupational level (at 4 digit level). According to the NODSOM model provided in the NHRP (2010 – 2025) – it is projected that the **net demand** for skilled labour in the agricultural sector for the first five year planning and reporting period of the SSP (2013 to 2017) totals approximately **130,500 people**. Table 2.1 reflects the NODSOM projected demand figures for Agriculture (Digit 1 Groups):

TABLE 2.1: NODSOM projected demand for additional skills in Agricultural Sector

Digit 1 Groupings	2013	2014	2015	2016	2017	2013 - 2017	2012 - 2025
Corp/Gen Managers	64	66	73	73	75	**351**	1 103
Professionals	2	2	1	1	1	**7**	16
Technicians	77	82	84	86	93	**422**	1 434
Clerks	102	108	116	120	125	**571**	1 906
Sales / Marketing	163	173	179	185	193	**893**	2 909
Skilled Agriculture	6 585	6 617	6 721	7 045	7 152	**34 119**	103 578
Tradesmen	364	372	352	360	416	**1 864**	6 631
Machine Operators	2 668	2 809	2 749	2 872	3 126	**14 224**	4 530
Elementary Workers	14 821	15 114	15 461	16 058	16 532	**77 986**	104 452
TOTAL	**26 860**	**27 356**	**27 751**	**28 816**	**29 730**	**130 438**	**226 559**

2.1.4 OCCUPATIONAL BREAKDOWN IN THE FARMING SECTOR

Against the earlier indicated sector demarcation and focus areas (section 2.1.1), it was agreed that this inaugural SSP will focus on those occupations that one will find within the primary agriculture sector (the so-called on-farm occupations) within the Namibian context. Per definition the focus was subsequently placed on the following key occupational groupings:

- ***Skilled Agricultural Workers:*** This is the largest and most important occupational grouping. It spans both market oriented and subsistence farming ventures and typically includes the following types of occupations:
    - Farmers or growers/producers (for the different types of farming ventures most prominent in Namibia – the most important commodities were selected);
    - Skilled agricultural workers performing a range of production and harvesting operations (on livestock, crop/horticultural and mixed farming enterprises) often under supervision of owner/manager.
- ***Managers*:** Farm managers and foreman (taking care of farming operations on behalf of or in absence of farm owners. Specific focus was given to the need for managers on those commercial and emerging farms where the owners are part-time or so-called weekend farmers.
- ***Machine Operators:*** This category confines itself to operators of machinery and equipment found specifically in the agricultural sector and includes occupations such as tractor drivers (including operation of equipment such as ploughs and discs); and operators of harvesters, fertilisers, balers, irrigation systems, etc.
- ***Craft and Related Trades:*** Whilst there are not any specific occupations selected from this occupational grouping, a range of skills and competencies used by tradesmen in other fields have good application in the agricultural sector and on farms. Such skills are essential for a variety of maintenance and repair responsibilities – usually assigned to and undertaken by the farmer or by a designated skilled worker. In some instances (usually on larger commercial farms), there might be a dedicated worker (e.g. a Handyman) who will perform such functions. Examples of trade related skills needed on farms include mechanical maintenance and repairs (tractors, generators; water pumps); welding and metal work; building and constructing farm infrastructure; fencing; irrigation maintenance and repair, etc.
- ***Elementary Workers:*** This category refers to farm labourers who perform a variety of tasks and duties that are mostly of a simple and routine nature. Whilst the majority of skills can be obtained through on-the-job training, in some cases they could be better equipped for their functions through attending specialised vocational training courses. Typical job categories to be given attention are Herders (livestock) and Charcoal burners in the Forestry Sector. The introduction of combined herding and improved methods of management of communal grazing (ideas recently discussed by the rangeland forum) makes the training of professional herders an exciting possibility (which will probably raise it as occupation above the level of 'elementary' worker).

The following **range of occupations** (which depicts the most important occupations as found in primary agriculture in Namibia) were subsequently identified and selected for the purposes of establishing the labour demands and analysing vocational skills development needs specifically related to such occupations and to be planned for in this Agriculture SSP.

TABLE 2.2: Employment estimates in selected key agricultural occupations (2013)

ISCO Code	Occupation	Total (All)	Commercial Sub-sector	Emerging Sub-sector	Subsistence Sub-sector	Skilled labourers
GROUP 1: MANAGERS						
	Farm Managers & Foreman	300	200	100	-	-
GROUP 6: SKILLED AGRICULTURAL WORKERS (INCLUDING FARMERS/PRODUCERS)						
	Beef cattle producers	8 000	2 000	2 500	3 500	-
	Goat producers	6 050	150	900	5 000	-
	Sheep producers	1 900	500	900	500	-
	Karakul producers	600	400	200	-	
	Game farmers	250	250	-	-	-
	Mixed livestock	18 500	500	3 000	15 000	-
	Field crop producers	11 700	200	1 500	10000	-
	Vegetable producers	2 950	150	1 800	1 000	-
	Fruit producers	150	50	100	-	-
	Mixed crop producers (grains and vegetables	38 300	300	3 000	35 000	-
	Mixed livestock and crop producers	35 300	300	5 000	30 000	-
	Crop farm labourers	7 000	-	-	-	7 000
	General livestock farm labourers	10 000	-	-	-	10 000
	Mixed crop and livestock farm	8 000	-	-	-	8 000
	Community Animal Health Worker (CAHW)	300	-	300	--	-
GROUP 7: CRAFT AND RELATED TRADE WORKERS						
	Agric machinery, equip & infra repairs (Farmers and Handymen)	3 000	-	-	-	3 000
GROUP 8: PLANT AND MACHINE OPERATORS						
	Mobile farm and forestry plant operators	2 000	-	-	-	2 000
GROUP 9: ELEMENTARY OCCUPATIONS						
	Herders	5 000	-	-	-	5 000
	Forestry workers (e.g. Charcoal Burners)	1 000	-	-	-	1 000
	Other unskilled labour	10 000	-	-	-	10 000
TOTAL		**170 000**	**5 000**	**19 000**	**100 000**	**46 000**

2.2 SKILLS SUPPLY

This section attempts to reflect on current skill levels of the agricultural workforce and evaluates the supply of skilled labour from the various ATVET institutions. Since Chapter 3 of the SSP "Assessment of ATVET Provision" addresses this aspect in detail it is recommended that the section be read closely with Chapter 3.

2.2.1 CURRENT SKILLS LEVELS (EDUCATION LEVELS OR QUALIFICATIONS) OF THE WORKFORCE

Limited information is available on the current qualifications and skills profile of the agricultural sector as a whole since the national surveys (such as the Namibian Labour Surveys and the Namibian Occupational Wages Survey) focus on the commercial agricultural sector only and such information is not known for people engaged in subsistence agriculture and/or those who are employed in the emerging agricultural sector. The following information obtained from the 2009 Namibian Occupational Wages Survey (NOWS) provides an overview of the educational level of the sample group of employees and farmers consulted for that study (sample drawn from employees on commercial farms):

TABLE 2.3: Level of education of employees in the agricultural sector (NOWS – 2009)

Level of Education	Percentage	Comparison with all other sectors
None	5.5%	11.6%
Primary School	34%	21.7%
Junior Secondary School	36%	32%
Senior Secondary School	16.6%	23%
Post Grade 12	1.7%	0.8%
University	0.9%	8.7%
No response (unknown)	5.3	2.2%

From the data it is evident that a large percentage (more than 75% of the labour force have not advanced to or passed the Junior Secondary School level (which reflects a less educated workforce than in the rest of the economic sectors).

With regards to their ***vocational skills and competencies*** it was interesting to note that the same survey reported the following views of respondents:

- Almost all respondents (92% of farmers consulted) were of the opinion that their employees had adequate skills to perform their jobs to the acceptable standard
- A very high percentage (91%) of the employers (farmers) who participated indicated that they provide in-service (on-the-job) training to their employees
- From the survey it was evident that a very small number of the sample group employees have been enrolled for formal and structured training programmes.

It should be noted that the above views (e.g. regarding the level of competence of the agricultural labour force) differs markedly from the insight gained during the undertaking of the SSP and as expressed during the various workshops held with farmer representative groups (please refer to section 2.3.2 below)

2.2.2 GRADUATE OUTPUTS FROM ATVET INSTITUTIONS

Please refer to Chapter 3 for detailed information regarding the ATVET provider sector

2.3 SKILLS GAP

This section aims to define the gap between the supply and demand for skilled people in the key occupations. To this end the priority scarce and critical skills are identified, and the demand for training (size and scope of training demand) is analysed in detail.

2.3.1 SCARCE AND CRITICAL SKILLS

For skills planning purposes it is very important to establish the demand for both "s*carce and critical skills*". Scarce and critical skills refer to an absolute or relative demand, current or future, for skilled, qualified and experienced people to fill particular roles/ professions/occupations in the labour market. A further analysis of these concepts reveals:

2.3.1.1 Scarce Skills

Scare skills as a concept refers to an absolute or relative demand for skilled people to fill a particular role, profession or occupation.

- ***Absolute demand*** means that suitable skilled people are not available (or in short supply). For example in new or emerging occupations there are few, if any people in the country with the requisite skills. The sector cannot implement planned growth strategies and are experiencing productivity, service delivery and quality problems directly attributable to a lack of skilled people. A good example was the introduction of Europe's requirements for the export of agricultural products - initially there were no skilled people available to help farmers to implement food health and safety systems such as EuroGAP and HACCP to meet European export requirements.
- ***Relative demand.*** The second category of scarce skills is that of a relative demand. This simply means that there are suitably skilled people available, but they do not meet other employment criteria - whilst they are available, vacant posts still cannot be filled, for example:
    - Geographical location related scarcity, i.e. skilled people are available but not in certain geographic, regions. For example, it might be difficult to attract qualified people to some outlying farming areas.
    - Equity considerations. There are very few people from designated population and/or gender groups available to fill certain posts. For instance there are few black game farmers; in certain technical posts there are very few females and the disabled are also not well represented in the agricultural sector.

2.3.1.2 Critical Skills

Critical skills as a concept refers to the demand for an ***element*** of practical or fundamental competence which allows for competence or specialization - in essence it refers to ***"top-up"*** skills. This is frequently experienced on farms - whilst there are machine operators available, the sophistication of modern tractors implies that the operator's skill needs to be topped up. The same applies for production processes which require the producer to apply new production techniques and technology or to become computer literate and to work with specific computer applications (e.g. sophisticated irrigation systems). Within the agricultural context it could also refer to the type and range of business management skills needed to transform a small scale subsistence farmer into a commercially orientated farmer who produces for the market (which could include new and modernized production techniques; technological skills, resource utilization and management skills, financial planning and management skills, etc).

2.3.1.3 Application of scare and critical skill concepts in the sector

Within the context of the Namibian agricultural (farming) sector the following are key observations in terms of scarce and critical skills:

- It can be stated that the agricultural sector does not experience a general labour shortage (i.e. a situation does not exist where there is not enough supply of labour - regardless of their available skills levels – to meet the demand for labour). With the high unemployment rate in Namibia (and the large number of people who are subsequently "forced" into the informal sector and subsistence agriculture), this is generally not relevant at this stage in Namibia's development cycle. The farming sector nevertheless does experience some recruitment difficulties. Whilst the high unemployment rate in the country still makes it possible to recruit unskilled labour as farm workers, farmers find it difficult to retain the better employees. This is primarily because of the perceived less favourable working conditions and working environment on farms – especially as perceived by the youth. Factors contributing to this perception are (NOWS 2009):
    - Agriculture is the sector with the longest working hours (34% indicated a working day of between 9 and 13 hours)
    - It is one of only a few sectors that work 6 days per week (largest percentage of all sectors with 43% indicating a 6 day work week). A further 15% indicated that they have a 7 day work week – the largest of all sectors
    - Remuneration (wages) in the sector also compares poorly to other sectors (the 2012 National Labour Survey reported the agricultural sector as paying the lowest wages at the level of unskilled labourers).

  On the positive side it must however be noted that the agricultural sector is only one of three sectors in Namibia that has a set basic level of pay attained through collective bargaining. In addition a remuneration survey undertaken by the Namibia Agricultural Employer's Association in 2012 revealed that farm workers also receive so-called food allowances or rations in addition to their wages – which according to the survey increased the average monthly monetary remuneration to N$ 1,450. When other fringe benefits found on most farms (e.g. free housing, free transport of children to school, free transport to clinics, annual bonuses, keeping of cattle and small stock on the farms, etc.) were also taken into account the average total remuneration package on commercial farms amounted to almost N$ 2,800 per month. This compared favourably to the remuneration received by labourers in most other sectors in Namibia.

- Whilst there are scarce skills (absolute skills shortages) in a few select fields and occupations (e.g. well trained farm managers and foreman and an overall shortage of business and entrepreneur minded farmers), the biggest demand lies in addressing the skills gaps of those currently engaged in and working in the sector – both farmers and their employees. There are a large number of people active in the sector that do not have the requisite skills to perform their tasks to an optimum or expected standard (or managing their farming enterprises in a profitable and sustainable manner in the case of farm owners), and a very big demand thus exists for so-called critical or "top-up" skills training.

Against the above it is thus believed that the focus of this inaugural Agriculture SSP must be to identify and project <u>both</u> the demand for <u>scarce skills</u> (primarily addressed through pre-employment training for new entrants) as well as <u>critical skills</u> – primarily addressed through up-skilling and re-training the existing agricultural labour force (farmers and workers) towards making them more competent and financially viable.

- In terms of addressing the demand for scarce and critical skills one could organise or group interventions into the following categories:

    - Training interventions and programmes aimed at developing people for a specific occupation. Such training programmes are usually of longer duration and formally structured to cover a pre-determined and relatively wide range and scope of knowledge, skill and competency fields. These programmes often lead to qualifications and more often than not provided as pre-employment training (i.e. to develop or prepare someone for a specific job or occupation). Whilst not exclusively so, these types of programmes and interventions are better geared towards addressing scarce skills.

      Typical examples of such programmes and qualifications aimed at addressing ***scarce skills*** are the vocationally oriented unit standard based qualifications (certificate programmes) being developed for the agricultural sector by the NTA (through ProVET). These Competency Based Education and Training (CBET) programmes will be of longer duration (ranging between 6 months to 12 months) and it is proposed to develop the following seven (7) certificates (more detailed information on the certificates are provided as Annexure 2):
        - ✓ Certificate in agriculture - specialization in animal husbandry (level 2)
        - ✓ Certificate in agriculture - specialization in animal production (level 3)
        - ✓ Certificate in agriculture - specialization in crop husbandry and horticulture (level 2)
        - ✓ Certificate in agriculture - specialization in crop and horticulture production (level 3)
        - ✓ Certificate in farm machinery and infrastructure (level 2)
        - ✓ Certificate in farm machinery and infrastructure (level 3)
        - ✓ Certificate in farm management (level 4)

    - Training interventions and courses aimed at developing selected skills and competencies needed to perform better in a job or occupation (the so-called ***critical skills***). These courses are often of shorter duration and structured to address a specifically defined skills gap. Whilst not exclusively so, these skills courses are often provided to upgrade and improve the performance and competence of existing employees and are better geared towards addressing critical skills (so-called top-up training). Typical examples of such training courses and interventions aimed at addressing ***critical*** skills are the following:
        - ✓ Short courses specifically designed to address a competency and skills gap through the selection of relevant unit standard that will address the identified need
        - ✓ The skills programmes often combine a number of unit standards into so-called skills sets identified as needed and capable of developing competence in areas of a job / occupation or a specialisation aspect of a job Examples of such skills sets for the agricultural sector is provided in Table 2.5
        - ✓ Courses will ideally be competency based and have a strong practical skills development orientation and nature

2.3.2 DEMAND FOR SKILLS TRAINING AS EXPRESSED BY KEY STAKEHOLDERS

As a critical input to the Agriculture SSP, it was attempted to verify the size and scope of the demand for training from two key stakeholder groupings namely farmers in Namibia and secondary school learners who might have an interest in an agricultural career.

2.3.2.1 Skills and training demand from School Leavers

Statistics obtained from the Education Management Information System (EMIS) of the Ministry of Education for 2012 revealed the following:

TABLE 2.4: EMIS enrolment figures for pupils who have agriculture as subject (2012)

GRADE	Total number of Pupils enrolled	Enrolment for Agriculture as subject	Number of school leavers with agriculture (per annum)
Grade 10	34 200	21 400	8 000
Grade 11	20 600	6 800	-
Grade 12	19 000	6 900	7 000
TOTAL	**73 800**	**35 100**	**15 000**

The attrition rate (percentage of school leavers) from junior secondary to senior secondary phase (between Grade 10 and Grade 11) was as high as 39%. If this figure is applied to the number of pupils who take agriculture as a subject, it is estimated that approximately 8,000 Grade 10 learners (who have agriculture as subject) annually exit the formal schooling system and either enters the labour market or seek some education and training opportunity to further enhance their employability and/or career opportunities. Similarly an estimated 7,000 Grade 12 pupils who have taken agriculture as a subject will annually exit the schooling system in search of employment or further learning opportunities. This implies that approximately 15,000 children who potentially might have an interest to enrol for Agricultural Technical Vocational Education and Training (ATVET) programmes leave school annually.

To test this demand, two consultative workshops were held with learners from a selection of Secondary Schools in the Northern Areas (in Rundu and in Outapi). Of the 52 pupils consulted a total of 10 (19%) indicated that they are considering a career in the agricultural sector. Of this group a total of 3 pupils indicated that (if such were available and on offer now), they would have enrolled for the longer duration vocationally oriented Agricultural Certificate programmes (at NQF Levels 2 and 3) currently being developed by ProVET as a project of the NTA. This represents approximately 5% of the total group consulted. When the workshop participants were asked to estimate the demand or interest for such ATVET programmes amongst their fellow pupils, they estimated the demand much higher at approximately 30% of all pupils who take agriculture as subject. For planning purposes it is however recommended that a conservative estimate of 5% be adopted for pupils who will leave school at Grade 10 and an even more conservative estimate of 2% for Grade 12 school leavers (because they will have a wider scope and choice of further education and training programmes). Against these estimates a potential demand or interest from approximately 400 Grade 10 school leavers and a further 150 Grade 12 school leavers could be expected per annum - thus a need to create capacity to accommodate at least 550 school leavers per annum.

2.3.2.2 Skills and training demand expressed by Farmers

Given the limited timeframe and budget for developing the SSP for the Agricultural and Forestry Sector, it was decided that new and primary research towards determining the training needs and skills demand for the sector could not be undertaken as part of the assignment. Fortunately considerable work has been done in the recent past to establish such needs and it was attempted to consolidate and interpret the results of these earlier studies and efforts. In this regard the most prominent efforts /sources reviewed and considered included:

- Training needs analysis (TNA) studies initiated and/or undertaken by the NTA. The most important are:
    - The comprehensive survey undertaken in 2011 by two Australian consultants (Toovey and Adams) for and on behalf of the Agriculture ISC with the assistance and support of the Namibia Agricultural Union (NAU). It aimed to establish skills needs in the farming community for levels one, two and three.
    - The various training needs analysis workshops held by ProVET with farmers in the different regions and with key stakeholders such as the MAWF (over the past two years) towards developing unit standards and vocationally oriented qualifications in the agricultural sector.
    - On-going training needs identification efforts by MAWF (Directorate Extension and Engineering Services) – which were made available to ProVET and have been taken into consideration.

- Labour related studies undertaken by and/or on behalf of the Namibian Government – e.g. the various Labour Force Surveys (2008 – 2012); the 2009 Namibia Occupational Wages Survey; the 2010 Namibia's Skills Deficit Report following the study commissioned by Namibian Employers' Federation (NEF) and the Ministry of Labour and Social Welfare.

The results of these various TNA studies were subsequently consolidated into so-called "***skills sets***" which were "workshopped" with farmers to obtain their views and inputs regarding priority needs to be addressed and the size and scope of the demand for training amongst farmers (for themselves or for their employees). Three such verification workshops were held as part of this assignment with a total of 40 farmers in Grootfontein, Rundu and Outapi respectively. Participants at the workshops were carefully selected to represent the farming sector as a whole (representative of the different farming systems and farmer groupings). Whilst Table 2.5 provides results of the demand expressed and verified during the workshops, the following is a short summary of the most prominent needs identified:

a) Demand for Certificate Programmes

The workshops tested the views of farmers regarding the demand for the seven (7) longer duration certificate programmes / qualifications being developed by the NTA via ProVET. The farmers consulted were very positive regarding the demand for the proposed certificates and qualifications and almost unanimously expressed the opinion that the type and range of certificate programmes proposed will make a significant contribution in meeting the skills requirements of the agricultural sector. They however also indicated that such longer duration programmes (on average 8 months duration per certificate), is more suitable as pre-employment training and as such did not foresee a big uptake for such certificate programmes from people who are already in employment (i.e. from existing farmers themselves or for their existing employees) – mainly because most farming enterprises can not afford to release the owner and/or key staff for such long periods.

It was further indicated that the demand for such longer duration certificate programmes would emanate from and exist amongst the following target groups:

- *As pre-employment training*: For school leavers and other unemployed persons who want such training to help them secure employment and/or enhance their career path in the agricultural sector. It was expressed that the "push" demand for such training (i.e. the number of people interested to enrol and pay for such training) will be high and consensus from the three workshops was that this type of demand for longer duration certificate programmes could exceed a thousand (1,000) learning opportunities per annum. Placement of people with such skills will typically be in the following fields or vocational categories:
    - People to be trained and employed as farm managers / farm foremen / caretakers on commercial farms (especially those farms where the owners are part-time farmers – so-called weekend or lifestyle farmers – and where there is a need for a well skilled person to take care of the farm during the absence of the farm owner. The workshops revealed that there would be a considerable interest amongst farmers to recruit such skilled people if they were available.
    - Family members or confidents of those farm owners (especially emerging farmers) who do not possess the full range of skills and competence needed to grow and manage their farm enterprises and who might send a son/daughter or family member to be trained and who would then join the family farming venture.

- *As in-service training*: For existing farmers and/or their staff to increase their knowledge, skills and competence for better performance and results. As indicated earlier it is anticipated that a limited number of employed people can afford the time to attend such longer duration courses and it will only be pursued where there is a real felt need to address a vacancy or skills shortage experienced in a farming enterprise (the so-called "pull" demand). It is believed that the demand for in-service training of existing employed staff on the longer duration programmes will be relatively small and will probably not exceed more than one hundred (100) trainees per annum.

b) Demand for Short Skills Courses

In addition to the above longer duration certificate programmes (leading to qualifications), it is also the intention to develop and offer a wide range of short courses that are based on and will comprise of individual unit standards and/or a combination of a number of unit standards (so-called CBET Skills Programmes) drawn from the above indicated certificates.

The farmers consulted during the farmer workshops expressed an overwhelming need for such short skills and competency based courses. Refer to Table 2.5 below to view the skills sets selected as priority training needs to be addressed, together with the estimated demand expressed during the workshops for such skills (in the form of short CBET courses should such be available and on offer). The workshop participants further identified the following as key target groups needing such training:

- Workers on commercial farms who needed up-skilling (top up skills) in certain fields or areas of their work to make them more competent and productive (addressing gaps in their existing skills base and/or to prepare them for new positions, technology, production methods and developments in the sector).

- Farmers / owners of emerging small scale farming ventures that need to improve and expand their own skills and competencies towards becoming more productive and profitable. All the small scale farmers who participated in the workshops (100%) indicated that they were interested in, and would enrol for some (one or more) short courses where they felt they particularly required improvement and up-skilling.
- Subsistence farmers. Whilst this farming group was not directly represented at the workshops, the participants expressed the opinion that a significant number of subsistence farmers would also have an interest to attend short courses if made available to them at an affordable price (preferably if it was free of charge). There seems to be a growing sentiment and understanding amongst communal farmers in general that they have to farm more scientifically and to view farming as a business as opposed to a tradition and means of supplementing food supplies.

The workshop participants also expressed the following as critical guidelines to be considered when designing short course training interventions aimed at addressing the identified demand:

- Courses must preferably be of short duration - ranging from 1 day to 5 days
- A very strong preference was expressed for practical competency based training (CBET)
- Providers should create capacity to also present courses in the vernacular (especially for communal and subsistence farmer groups)
- Where possible the short courses should be offered on a decentralised basis (at facilities close to or on farms in the area of the target group attendants)

Table 2.5: Skills Demand (for short skills courses)

Table 2.5 below attempts to project the demand for skills training (short unit standard based modular courses) as identified during the various training needs analysis studies and efforts undertaken earlier within the agricultural sector, and as verified and expressed by the farmers who attended the farmer workshops held as part of this assignment to develop the Agriculture SSP. The following are **important notes and explanations** towards understanding and interpreting the information provided (and skills demand expressed) in Table 2.5

(1) A profile of the farmers who attended the three farmer workshops and who provided the information are as follows:
   a. The Grootfontein Workshop (GF): This workshop comprised of larger well established and successful commercial farmers – covering the spectrum of livestock farmers, crop farmers and mixed farming systems in this area classified as having relatively high agricultural potential.
   b. The Rundu Workshop (Run): This workshop was attended by farmers who represent those emerging farmers in the North east that are producing for the market (some already substantial producers with the majority still growing)
   c. The Outapi Workshop (Out): This workshop was attended by farmers who represent those emerging farmers in the North west that are producing for the market (some already substantial producers with the majority still growing)

(2) ***"Priority Assigned"*** - workshop attendants were requested to assign an importance or priority rating to the forty (40) different skills sets presented to them. With 5 indicating a top priority (must-have skill) and 1 for not so important skill.

(3) "***Demand Percentage"*** - workshop attendants were requested to assign a percentage to each skills-set indicating what percentage of the total target group which they represent they thought would be interested in that skills set for themselves or for their employees

(4) ***"Average Percentage"*** – this is the average of the demand percentages assigned by participants of the three different workshop participants to the various skills sets and the resultant demand figure established through applying this average percentage to the estimated number of people in the relevant occupations (note 5).

(5) ***"Relevant Occupations"*** - those occupations selected earlier as being key to the farming sector together with the estimated number of people in each occupation – which was then used as the base figure against which demand percentages were applied.

(6) ***"Applied Percentage"*** - a need exists to distinguish between what people view and expressed as a skills need that should ***ideally*** be addressed (the perceived demand for training) as opposed to the number of people will ***actually*** take up such training when it is made available (attend training with its associated costs /fees and other implications – such as affording time away from the farm to attend training). The "applied percentage" thus reflects what the developers of the SSP deem to be a realistic estimation of the real training demand that will have to be satisfied (the number of people who actually enrol for training courses - which is a considerably more conservative number than that expressed at the workshops). In generating what is deemed to be a "realistic" demand figure, aspects that were taken into account typically included the following: the costs of training; the opportunity costs of attending training (e.g. affording the time away from the farm); the availability of courses when and where it is needed (e.g. timing of training linked to production cycle); etc.

(7) ***"Training demand – Uptake"*** - this figure reflects our estimate of the actual training uptake and for which the ATVET system should plan and create capacity. The percentage deemed realistic (applied percentage) was applied to the estimated number of people in those occupations related to the skills set. Please note that for the purposes of this exercise only employment in the commercial and emerging farming sectors were taken into consideration (thus predominantly ***excluding demand from the subsistence farming sector for now***). Please also note that this is the projected demand per annum for the 5 year period of this inaugural Agriculture SSP (2013 – 2017).

TABLE 2.5: Skills Demand (for short skills courses) as established in consultation with farmers and other key stakeholders

Skills Set	Animal production skills sets	Priority Assigned [2]			Demand (Percentage) [3]			Average Percentage Applied [4]	Relevant Occupations [5]	Proposed Actual Percentage [6]	Train Demand (Uptake) [7]
		GF [1]	Run	Out	GF	Run	Out				
1	Basic knowledge and understanding of farm animals' **anatomy and physiology**. Types and breeds of farm animals (characteristics of different animals and how to make a suitable selection for your farm enterprise (factors to consider when deciding on what animals to farm with). Knowledge of various **production systems** (intensive and extensive)	4	3	3	8%	30%	50%	5 000	Beef cattle producers (4 500) Goat producers (1050) Sheep producers (1 400) Karakul producers (600) Mixed livestock producers (3 500) CAHW (300) Mixed livestock & crop producers (5 300) Total = 16 650	3%	500
2	Basic knowledge and understanding of **sustainability and environmental principles**. Grazing, pasture and rangeland management, degradation control and restoration. For plant production it includes rainwater harvesting, water efficient plant production (especially drip irrigation and hydroponics) for arid areas, alternative small scale farming techniques including integrated production systems, manage threats of draught, climate change, etc.	4	3	5	10%	40%	80%	7 200	Beef cattle producers (4 500) Goat producers (1050) Sheep producers (1 400) Karakul producers (600) Mixed livestock producers (3 500) CAHW (300) General livestock farm labourers (15 000) Mixed livestock & crop producers (5 300) Mixed crop & livestock labourers (8 000) Total = 39 650	5%	2 000
3	**Observation, handling, management** and care of different types of animals through their life stages (e.g. animal behaviour, changing feed requirements, management of herd size and composition. For cattle also castration, de-horning, dipping, tagging, branding. For small livestock also hoof clipping, docking of lambs etc.)	5	5	4	12%	50%	70%	17 500	Beef cattle producers (4 500) Goat producers (1050) Sheep producers (1 400) Karakul producers (600) Mixed livestock producers (3 500) CAHW (300) General livestock farm labourers (15 000) Mixed livestock & crop producers (5 300) Mixed crop & livestock labourers (8 000) Total = 39 650	8%	3 000
4	Animal **feeding, nutrition and water** provision (e.g. water quality and quantity requirements, rationing, feed supplements, fattening for the market) for cattle, small stock, pigs and chickens.	4	4	5	8%	40%	70%	15 800	Beef cattle producers (4 500) Goat producers (1050) Sheep producers (1 400) Karakul producers (600) Mixed livestock producers (3 500) CAHW (300) General livestock farm labourers (15 000) Mixed livestock & crop producers (5 300) Mixed crop & livestock labourers (8 000) Total = 39 650	5%	2 000

Skills Set	Animal production skills sets	Priority Assigned [2]			Demand (Percentage) [3]			Average Percentage Applied [4]	Relevant Occupations [5]	Proposed Actual Percentage [6]	Train Demand (Uptake) [7]
		GF [1]	Run	Out	GF	Run	Out				
5	Animal **health (diseases, pests, parasite and injury prevention**, identification and reporting, treatment and bio-security). Includes vaccination, diagnosis and treatment, de-worming, dosing, dipping etc. Primary healthcare, and integrated disease prevention techniques for cattle, small stock, pigs and poultry.	5	5	5	8%	50%	70%	16 600	Beef cattle producers (4 500) Goat producers (1050) Sheep producers (1 400) Karakul producers (600) Mixed livestock producers (3 500) CAHW (300) General livestock farm labourers (15 000) Mixed livestock & crop producers (5 300) Mixed crop & livestock labourers (8 000) Total = 39 650	8%	3 200
6	Animal **housing and handling facilities** (e.g. pens, kraals, stays, dip tanks, cribs, etc.) general principles, requirements and specifications.	3	3	3	3%	30%	20%	5 600	Beef cattle producers (4 500) Goat producers (1050) Sheep producers (1 400) Karakul producers (600) Mixed livestock producers (3 500) CAHW (300) General livestock farm labourers (15 000) Mixed livestock & crop producers (5 300) Total = 31 650	3%	1 000
7	Animal **breeding** (principles of breeding, characteristics of good breeding stock, artificial insemination , pregnancy testing)	4	3	4	5%	20%	80%	5 800	Beef cattle producers (4 500) Goat producers (1050) Sheep producers (1 400) Karakul producers (600) Mixed livestock producers (3 500) CAHW (300) Mixed livestock & crop producers (5 300) Total = 16 650	3%	500
8	**Harvesting and post-harvest** handling, sorting, grading, treatment, value adding, packaging, storage and transport of animal products (slaughtering, pelts, shearing, milking, egg collection, dung use, hunting)	4	3	4	5%	20%	20%	4 700	Beef cattle producers (4 500) Goat producers (1050) Sheep producers (1 400) Karakul producers (600) Mixed livestock producers (3 500) CAHW (300) General livestock farm labourers (15 000) Mixed livestock & crop producers (5 300) Total = 31 650	3%	1 000
9	**Bee keeping** (care, harvesting and value adding)	1	1	1	0%	0%	0%	0	No demand established	0%	0

Skills Set	Plant Production Skills Set	Priority Assigned[2]			Demand (Percentage) [3]			Average Percentage Applied [4]	Relevant Occupations [5]	Proposed Actual Percentage [6]	Train Demand (Uptake) [7]
		GF [1]	Run	Out	GF	Run	Out				
10	Basic knowledge of crop plants (**physiology) and crop production systems** (intensive, irrigated, dry land). Plant knowledge and selection of type of crops and varieties to plant (characteristics and selection of most suitable varieties) in accordance with environmental conditions.	3	4	3	5%	50%	60%	4 700	Field crop producers (1 700) Vegetable producers (1 950) Fruit producers (150) Mixed crop producers (3 300) Mixed livestock & crop producers (5 300) Total = 12 400	3%	350
11	Soil sampling, **soil knowledge** and identification and interpretation of soil test and analysis results	2	3	5	2%	25%	60%	3 700	Field crop producers (1 700) Vegetable producers (1 950) Fruit producers (150) Mixed crop producers (3 300) Mixed livestock & crop producers (5 300) Total =12 400	1%	100
12	Land and **soil preparation**, drainage & tillage (incl. ploughing, discing and cleaning the land)	4	4	5	5%	50%	80%	12 300	Field crop producers (1 700) Vegetable producers (1 950) Fruit producers (150) Mixed crop producers (3 300) Crop farm labourers (7 000) Mixed livestock & crop producers (5 300) Mixed crop & livestock labourers (8 000) Total = 27 400	5%	1 400
13	Production or sourcing, preparation and storage of **propagation material** (plant propagation; seeds, seedlings etc.)	3	2	5	3%	20%	80%	7 400	Vegetable producers (1 950) Fruit producers (150) Crop farm labourers (7 000) Mixed livestock & crop producers (5 300) Mixed crop & livestock labourers (8 000) Total = 22 400	3%	700
14	**Establishing crops** (planting methods, timing and operations (how and when to plant), plant emergence and care of young plants.	3	4	5	5%	50%	80%	12 300	Field crop producers (1 700) Vegetable producers (1 950) Fruit producers (150) Mixed crop producers (3 300) Crop farm labourers (7 000) Mixed livestock & crop producers (5 300) Mixed crop & livestock labourers (8 000) Total = 27 400	5%	1 400

Skills Set	Plant Production Skills Set	Priority Assigned[2]			Demand (Percentage) [3]			Average Percentage Applied [4]	Relevant Occupations [5]	Proposed Actual Percentage [6]	Train Demand (Uptake) [7]
		GF [1]	Run	Out	GF	Run	Out				
15	**Plant growth**. Soil fertility and plant nutrition: Soil improvement, application of organic or other fertilizers to requirements	4	4	5	5%	40%	80%	11 200	Field crop producers (1 700) Vegetable producers (1 950) Fruit producers (150) Mixed crop producers (3 300) Crop farm labourers (7 000) Mixed livestock & crop producers (5 300) Mixed crop & livestock labourers (8 000) Total = 27 400	5%	1 400
16	Crop **diseases, pests** and disorder identification and control (organic and other safe chemicals application practices)	4	4	5	5%	40%	80%	11 200	Field crop producers (1 700) Vegetable producers (1 950) Fruit producers (150) Mixed crop producers (3 300) Crop farm labourers (7 000) Mixed livestock & crop producers (5 300) Mixed crop & livestock labourers (8 000) Total = 27 400	5%	1 400
17	**Weeds** identification and control (organic and other safe chemicals application practices)	4	4	4	5%	40%	60%	9 600	Field crop producers (1 700) Vegetable producers (1 950) Fruit producers (150) Mixed crop producers (3 300) Crop farm labourers (7 000) Mixed livestock & crop producers (5 300) Mixed crop & livestock labourers (8 000) Total = 27 400	5%	1 400
18	**Plant care** (e.g. gap filling, thinning, pruning, orchard management)	3	4	3	3%	30%	40%	6 200	Vegetable producers (1 950) Fruit producers (150) Mixed crop producers (3 300) Crop farm labourers (7 000) Mixed livestock & crop producers (5 300) Mixed crop & livestock labourers (8 000) Total = 25 700	3%	800
19	**Harvesting crops** (field crops, vegetables and fruit)	3	3	3	3%	20%	40%	5 700	Field crop producers (1 700) Vegetable producers (1 950) Fruit producers (150) Mixed crop producers (3 300) Crop farm labourers (7 000) Mixed livestock & crop producers (5 300) Mixed crop & livestock labourers (8 000) Total = 27 400	3%	800

Skills Set	Plant Production Skills Set	Priority Assigned[2]			Demand (Percentage) [3]			Average Percentage Applied [4]	Relevant Occupations [5]	Proposed Actual Percentage [6]	Train Demand (Uptake) [7]
		GF [1]	Run	Out	GF	Run	Out				
20	**Post- harvest handling**, sorting, grading, treatment, value adding, packaging, storage and transport	3	3	5	3%	20%	80%	8 500	Field crop producers (1 700) Vegetable producers (1 950) Fruit producers (150) Mixed crop producers (3 300) Crop farm labourers (7 000) Mixed livestock & crop producers (5 300) Mixed crop & livestock labourers (8 000) Total = 27 400	3%	800
21	**Crop rotation**, intercropping and fallow breaks	3	3	5	3%	20%	80%	8 500	Field crop producers (1 700) Vegetable producers (1 950) Fruit producers (150) Mixed crop producers (3 300) Crop farm labourers (7 000) Mixed livestock & crop producers (5 300) Mixed crop & livestock labourers (8 000) Total = 27 400	3%	800
	Water: irrigation and animal watering sets										
22	**Irrigation** (assessment of irrigation potential, infrastructure and scheduling)	2	3	5	3%	20%	80%	900	Field crop producers (300) Vegetable producers (1 950) Fruit producers (150) Mixed crop producers (300) Mixed livestock & crop producers (300) Total = 3 000	10%	300
23	**Irrigation investment** decisions: Viability, water availability and return on investment assessment	2	3	5	3%	20%	80%	900	Field crop producers (300) Vegetable producers (1 950) Fruit producers (150) Mixed crop producers (300) Mixed livestock & crop producers (300) Total = 3 000	10%	300
24	**Irrigation infrastructure** (including boreholes, pumps, farm dams etc.): Construction, use, calibration, maintenance and repair	4	5	5	5%	40%	80%	1 500	Field crop producers (300) Vegetable producers (1 950) Fruit producers (150) Mixed crop producers (300) Mixed livestock & crop producers (300) Crop farm labourers (2 000) Total = 5 000	20%	1 000

Skills Set	Water: irrigation and animal watering sets	Priority Assigned[2]			Demand (Percentage) [3]			Average Percentage [4]	Relevant Occupations [5]	Applied Percent [6]	Train Demand (Uptake) [7]
		GF [1]	Run	Out	GF	Run	Out				
25	**Irrigation scheduling**: Water requirements and optimal water usage for different crop and soil types and weather conditions.	4	4	5	5%	30%	80%	1 100	Field crop producers (300) Vegetable producers (1 950) Fruit producers (150) Mixed crop producers (300) Mixed livestock & crop producers (300) Total = 3 000	20%	600
26	**Water legislation** and licensing	2	2	5	2%	20%	40%	600	Field crop producers (300) Vegetable producers (1 950) Fruit producers (150) Mixed crop producers (300) Mixed livestock & crop producers (300) Total = 3 000	10%	300
27	**Animal watering infrastructure** including wind pumps, boreholes and water points: Construction, use, maintenance and repair (e.g. clean troughs and reservoir, check pipelines, clean valves, prepare neat and dry troughs, inspect taps, check water levels and check and repair windmills)	4	5	3	5%	40%	40%	4 600	Beef cattle producers (4 500) Goat producers (1050) Sheep producers (1 400) Karakul producers (600) Mixed livestock producers (3 500) CAHW (300) Mixed livestock & crop producers (5 300) Total = 16 650	5%	800
Skills Set	**Technical skills sets**	**Priority Assigned[2]**			**Demand (Percentage) [3]**			**Average Percentage [4]**	**Relevant Occupations [5]**	**Applied Percent [6]**	**Train Demand (Uptake) [7]**
		GF	**Run**	**Out**	**GF**	**Run**	**Out**				
28	Very **basic mechanical training**: simple on-farm repairs and proper on-farm routine maintenance	5	5	5	8%	50%	80%	1 400	Farmers (2 000) Handymen =1 000 Total = 3 000	25%	750
29	Mechanical **workshop operation** and mechanical skills (beyond basic maintenance and repairs), includes motor mechanics, engine maintenance, implement and irrigation systems maintenance /repair, welding skills.	5	4	3	8%	50%	80%	1 400	Farmers (2 000) Handymen =1 000 Total = 3 000	25%	750
30	**Electrical skills**, energy efficiency and alternative energy incl. solar energy	4	5	3	8%	40%	60%	1 000	Farmers (2 000) Handymen =1 000 Total = 3 000	15%	450

Skills Set	Technical skills sets	Priority Assigned[2]			Demand (Percentage) [3]			Average Percentage [4]	Relevant Occupations [5]	Applied Percent [6]	Train Demand (Uptake) [7]
31	**Operation of farm machinery**, implements and equipment (e.g. tractors, harvesters, bakkies, etc) focussing on proper care, maintenance and optimal operation to optimise performance, and minimise reckless driving/operation and depreciation.	5	5	3	8%	50%	60%	1 200	Farmers (2 000) Handymen =1 000 Total = 3 000	15%	450
32	**Farm infrastructure,** buildings, road and fence construction and repairs. Construction and structural maintenance and repair of common farm buildings and other structures (e.g. fences, stores, kraals, pens, troughs, dams, roads, etc.)	5	5	3	8%	50%	60%	1 200	Farmers (2 000) Handymen =1 000 Total = 3 000	25%	750
	Farm management skills sets										
33	**Business planning** and **entrepreneurial** skills (enterprise selection and viability studies, business plans)	4	4	5	5%	40%	80%	9 300	Livestock farmers (10 300) Crop farmers (7 100) Mixed farmers (5 300) Total = 22 700	5%	1 100
34	**Marketing** skills (market research, marketing, pricing, branding, marketing channels, selling skills, etc.)	4	4	5	5%	40%	80%	9 300	Livestock farmers (10 300) Crop farmers (7 100) Mixed farmers (5 300) Total = 22 700	5%	1 100
35	Farming related **record keeping, administration** and legislation (incl. breeding records, agrochemical application records, inventories, tagging, tax records, etc).	5	4	5	5%	40%	80%	9 300	Livestock farmers (10 300) Crop farmers (7 100) Mixed farmers (5 300) Total = 22 700	5%	1 100
36	**Financial skills** and management (including purchasing and negotiation skills)	5	4	5	5%	40%	80%	9 300	Livestock farmers (10 300) Crop farmers (7 100) Mixed farmers (5 300) Total = 22 700	5%	1 100
37	**People management** and leadership (incl. conflict resolution and farm worker management)	5	4	5	5%	40%	80%	9 300	Livestock farmers (10 300) Crop farmers (7 100) Mixed farmers (5 300) Total = 22 700	5%	1 100
38	Transport and stores management	4	3	3	3%	20%	30%	3 800	Livestock farmers (10 300) Crop farmers (7 100) Mixed farmers (5 300) Total = 22 700	3%	700

Skills Set	Other skills (identified at Workshops)	Priority Assigned[2]			Demand (Percentage) [3]			Average Percentage [4]	Relevant Occupations [5]	Applied Percent [6]	Train Demand (Uptake) [7]
		GF [1]	Run	Out	GF	Run	Out				
39	**Health and safety** best practices related to agricultural sector (including **First Aid and Fire Fighting)**	4	3	5	20%	30%	80%	30 000	Commercial Sector (40 000) Emerging Sector (30 000) Total = 70 000	10%	7 000
40	**ABET** - basic literacy and numeracy as applied to agricultural sector together with some **Life Skills**	5	3	3	30%	25%	60%	26 600	Commercial Sector (40 000) Emerging Sector (30 000) Total = 70 000	10%	7 000

2.3.3 SKILLS AND TRAINING NEEDS DEMANDING PRIORITY ATTENTION

The demand for training expressed in Table 2.5 above is so large and so diverse that it will not be possible for the ATVET provider system to address the full range of needs from the onset. A requirement thus exists to prioritise needs.

In developing the proposed priority list, the following were used as criteria for determining priorities:

- The size of the demand. This in turn is determined by the number of people who need such skills / training (i.e. how many people engage in that type of farming – as example in Namibia the demand for livestock production skills will be much larger than the demand for fruit production skills). The size of the demand is also related to how generic the skill is to most/all farmers (e.g. farm management skills are portable across different farming systems and will thus have a bigger demand in terms of numbers than irrigation skills that is only relevant to irrigation farmers).
- The importance or impact of the skills shortage. How critical is the skill (or the lack thereof) to the success and/or failure of the farming operation/enterprise.
- How important do beneficiaries view the skills / training. Regardless of the actual importance and impact, if farmers do not share this view and do not perceive it as a priority need, they will not attend training if such is made available.
- What resources are needed to address the skills need and/or to provide the training? Training that has equal demand and equal impact, but which can be provided easier and with less resources will probably receive a higher priority.

Against the above the following is a provisional list of the top ten (10) priority needs that have been selected by the authors of the SSP. Please note that it is a subjective list which could at best serve as a basis or point of departure for finalisation by the Agricultural Sector Skills Committee (which is the mandated structure assigned with the responsibility of determining priorities):

- Skills Set 2: (Principles of sustainable agriculture and environmental management)
- Skills Set 3 (Observation, handling, management and caring of farm animals)
- Skills Set 4 (Animal feeding, nutrition and water provision)
- Skills Set 5 (Animal health – diseases, pests, parasite and injury prevention)
- Skills Set 14 (Establishing crops)
- Skills Set 15 (Plant growth)
- Skills Set 16 (Crop diseases, pests and weed control)
- Skills Set 24 (Irrigation infrastructure and equipment)
- Skills Sets 29 and 32 (Mechanical workshop skills and Farm infrastructure construction, maintenance and repair)
- Skills Set 33 (Business planning and entrepreneurial skills)
- Skills Set 34 (Marketing skills)

Based on the conservative estimates regarding the real training demand (actual uptake of training as reflected in last column of table 2.5), the training numbers to be catered for in the selected skills sets total to approximately 19,000 training opportunities per annum.

2.3.4 HISTORIC TRAINING UPTAKE (ATTENDANCE) AS A POSSIBLE INDICATOR OF DEMAND

In a further attempt to estimate training demand as accurately as possible, an effort was made to establish historic uptake (attendance) of ATVET courses and to possibly use such figures and statistics to predict future uptake. To this end the most prominent ATVET providers in Namibia were requested to submit their 2013 training attendance figures and to express an opinion if their service rendering saturated the market for such training and/or if there was further needs not yet addressed (thus an untapped demand and market).

It must unfortunately be reported that this attempt proved to be worthless for the following reasons:

- Training statistics could only be obtained from three institutions – which are so limited and unrepresentative that projections can not be drawn from such.
- The type and range of courses offered for which statistics could be obtained is so limited and narrow (when compared to the 40 skills sets used to determine demand for the SSP), that meaningful demand extrapolations for the other functional fields can not be made.
- The training provided by the training centres of MAWF is initiated from an extension perspective (supply driven and top-down approach) whilst demand figures for the SSP should be needs driven. Training offered by MAWF is free of charge resulting in very high interest amongst farmers and the demand for enrolment is subsequently always higher than the number of people that can be accommodated on courses. It is however difficult to draw accurate training demand conclusions from such.
- In contrast Agra ProVision charges unsubsidised market and cost recovery rates for its training (this also do not reflect the true demand for such courses as their customers only represent a small proportion of the total target market – those who can afford market priced training).

Overall it can however be stated that the responses obtained from the three provider institutions revealed that they deemed the demand for training to be much larger than the existing training capacity in the sector. This is based on the fact that they continuously receive requests for more training and in more functional fields than what they can offer.

CHAPTER 3: ASSESSMENT OF VET PROVISION (SKILLS SUPPLY IN TERMS OF TRAINING PROVIDERS)

This chapter makes a quantitative and qualitative assessment of the provision of agricultural technical and vocational education and training (ATVET) in Namibia.

As a point of departure it should be noted that there is currently a critical lack of ability and capacity amongst training providers to meet the training needs of the agricultural sector. The current National Development Plan (NDP_4) recognises that the provision of vocational and technical education remains a serious challenge in Namibia. This was echoed by the Minister of Education during the National Conference on Education (August 2011) where it was stated that the VET sector is under developed and that a serious need exists for expanded vocational education facilities, diversified training and training providers, and curricula and teaching methods that are of high quality and responsive to national needs.

Towards addressing the above indicated challenges and constraints, the policy framework for long term national development, Namibia Vision 2030, includes as a key target the reform, transformation, and administration of the Vocational Education and Training (VET) system by an autonomous National Training Authority (NTA). To this end the NTA provides for a greater involvement of the commercial and industrial sectors in the development of the VET system, which will be financed through a Training Levy to be introduced in 2014.

3.1 OVERVIEW OF EDUCATION AND TRAINING PROVIDERS:

Given the above indicated shortage of existing providers that offer agriculture related vocational education and training, an urgent need exists to increase and expand the current capacity. For this reason this chapter of the SSP does not only focus on existing providers, but has also identified potential providers who could play a role. The following were subsequently identified as existing and potential provider institutions to be considered and incorporated into the SSP:

3.1.1 Programmes and Providers at VET Level

3.1.1.1 Government Institutions and Initiatives

Due to the very important socio-economic role and contribution of agriculture within the Namibian economy and society, the Namibian Government is a key provider of agricultural training and capacity building services. Ministries and government institutions that are involved or could make a contribution include the following:

a. The Ministry of Agriculture, Water and Fisheries (MAWF)

Various training related initiatives and services of MAWF include:

i. The ***Division of Agricultural Training (DAT)*** within the Directorate of Research and Training (DART) of MAWF takes responsibility for rendering training services to small scale and communal farmers. The DAT Division is

willing to increase and expand its training capacity to extend its training via other facilities and institutions once the need for such has been confirmed and funding for the undertaking thereof has been secured. Training is currently primarily provided via the following two residential agricultural development centres:

- Mashare: This institution is located close to Rundu (approximately 50 km east of Rundu) and offers both long and short courses. It comprises of two "campuses" – namely the Mashare Irrigation Training Centre (MITC) – which specialises in irrigation training and the Mashare Agricultural Development Institute (MADI) offering a variety of short courses.
    - The long course (12 months duration) is for irrigation farmers looking to become out growers on the Green Schemes. The course comprises farm management, irrigation techniques, administration, marketing, human resources, finance and technical production management. Current capacity can accommodate 60 learners per year. According to reports the next three years will see large investments into the training of small scale irrigation farmer trainees at the MITC.

    - A number of short courses (average 4-5 days duration) are also offered since 2011 covering the following fields and topics: Vegetable Production and Soil Sampling; Agronomy Production; Fruit Tree Production; Large Stock Production and Range Management; Small Stock Production; Poultry Production; Farm Implements, Tractor Maintenance & Driving, Arc and Gas Welding; Draught Animal Power and Blacksmith.

- Tsumis Arid Zone Agricultural Centre (TAZAC): This institution located between Rehoboth and Marienthal offers both a long course in livestock management and a range of short courses related to the care and management of livestock. The short courses on offer range from 4-5 days in duration and include the following fields and topics: Engine Maintenance; Borehole Maintenance; Arc Welding; Blacksmith; Small Stock Production; Goat Trimming and Care; Boergoat Judging; Vegetable Production.

ii. ***The Directorate of Extension and Engineering Services (DEES)*** within MAWF has a key responsibility for farmer training and rendering ongoing advice and farmer support services. Training offered is mostly done in the field (on-job) by extension staff and is usually not of a structured nature and is not accredited or standardised.

iii. ***Agricultural Technology Centres:*** MAWF is in the planning and construction phase of establishing two Agricultural Technology Centres – one which is already under construction at Rundu in the Kavango Region – and a second which is to be built in Ondangwa or Ongwediva in the north central regions. The centres which will be constructed and equipped at a total estimated cost of M$126 million by 2014 and will be operated by a private partner. Activities at the centres are to include research, design and manufacture of agricultural technologies adapted for Namibian conditions; the manufacture and repair of MAWF tractors and land preparation equipment; and training of northern rural area crop farmers in the technologies developed. It is envisaged that other training of a technical and maintenance nature could also be offered here.

iv. ***Agricultural Research Stations:*** There is a total of 19 Research Stations throughout Namibia that could be used as venues for short course agricultural training. Those with accommodation facilities could be used for skills sets whilst the others will be suitable to offer one day modules. During a NTA/ProVET workshop held in Rundu in May 2013 it was decided in principle that the following institutions be identified as satellite centres to MADI and TAZAC for short courses and specialised training:

- Livestock Training: Research Stations such as Kalahari, Gellap-Ost, Omatjenne, John Pandeni, Sonop, Sandveld, Okashana, Omuthiya. LDC's such as Alex Muranda, Sachinga, Okapya, Oshaambelo, Tsumkwe and Okomobonde should also be considered.
- Crops Training: For crops training the centres/facilities at Omahenen, Manheim, Bagani should be considered.
- Forestry Training: For forestry training the Rural Development Centres and facilities at Hamoye, Okahandja and Ongwediva should be considered

b. The Ministry of Regional and Local Government, Housing and Rural Development (MRLGHRD)

This Ministry has responsibility for rural development (which in Namibia has a very strong agricultural nature and character). Three ***Rural Development Centres*** operating under the Ministry exist in Ongwediva and Okashana, in the north and Ben Hur in the east. These centres provide advice and technical support for agricultural technology. Amongst others the centres are used by the Farmer Support Project (FSP), where various topic-related short courses (ranging from 2 – 5 days) are offered (see point e below)

In the case of the **Ongwediva Centre** the greatest part of its programmes and activities are directly related to agriculture. Current agricultural related programmes offered are:

- Farmer training in the use of draught power
- Farmer training in business decisions for livestock production and marketing
- Linking farmers to agricultural inputs and veterinary services
- Farmer training in business decisions for indigenous natural plants

c. National Youth Service (NYS):

Various NYS training centres are established throughout the country where agricultural training can be offered. At present the focus is more on other technical and vocational skills training fields but good scope exists because of the fact that a number of the centres already have agricultural production projects/components to generate food for students and can thus provide and serve as practical training facilities for agricultural production courses. The agricultural production activities undertaken (towards increased self sufficiency) include crop production (mahangu, white and yellow maize, sunflower seeds and vegetables) and livestock farming. NYS centres (those with farms) that could be used by MAWF or agricultural training purposes include:

- Farm Rietfontein is situated between Otavi and Grootfontein in the Otjozondjupa Region. It has 1,600 ha land and produces the following range of commodities: white and yellow maize, vegetables (carrots, tomatoes, onions, and spinach) and blue buffet hay; livestock include cattle, goats, sheep and kudus.

- Farm Berg Aukas is situated outside Grootfontein just off Highway B8 leading to Rundu in the Otjozondjupa Region. It has 308 ha land and produces white and yellow maize and vegetables (spinach, cabbage, onions, peppers and water melons).
- Farm Kangong is situated in the Kavango Region, 140 km east of Rundu. Agricultural production currently unknown or not undertaken.
- Farm Omaun is situated in Ohangwena Region, Okongo Constituency. It has 100 ha land and crops produced are mahangu, sunflower and ground nuts.

d. **Community Skills Development Centres (COSDECS).** There are 6 COSDECs situated throughout the country – with the aim and mission to "provide basic technical skills training" to facilitate and enhance employment creation and income generation at community and local level. Each COSDEC thus aligns its range of course offerings to such opportunities in the local environment. The Tsumeb COSDEC already offers short courses (1 week) in farm equipment maintenance. Whilst most of these institutions do not offer agricultural training courses at present, they could become interested if a proven demand is demonstrated for such (e.g. some already offer mechanical training – which can easily be expanded / converted to tractor maintenance). Since a number of COSDECS are located in rural areas they should offer agricultural training to realise the income generation potential offered by agriculture to their constituents. As example the Omaheke COSDEC has indicated an interest for courses on animal husbandry and farming techniques.

e. **The Farmer Support Programme (FSP).** The FSP is a joint venture project of the Namibian Government, GIZ and the Agricultural Bank of Namibia. The programme offers services to enhance the competencies (knowledge, skills and attitudes of farmers and to improve their farming practices. In terms of capacity building and skills development they offer a range of topic-related courses of 3 days to 5 days duration and deploys more than 30 experienced mentors who offer mentorship support to farmers (FSP mentors had visited 290 Affirmative Action Loan farms, 676 resettlement and 358 communal farmers to offer training during the 2011/12 financial year). In order to build on what was learned at farmers' and information days it was followed up with 3 - 5 days training courses, covering all the important components of profit-oriented commercial farming. These courses focus on large stock, small stock, rangeland management, game farming, crop production, horticulture, farm mechanics, financial management, human resource management and animal health. A number of consultants were contracted to present these courses and in the process 1,073 farmers (375 AALS and 698 FURS beneficiaries) were trained.

f. **Vocational Training Centres (VTC's).** VTCs are situated in Windhoek, Rundu, Katima Mulilo, Oshakati, Eenhana and Okakarara. These technical colleges, formerly managed by the Ministry of Education and now under the management of the NTA, prepare skilled artisans through a programme that provides a sound foundation in theory combined with experience in the working environment. Persons, who wish to improve their knowledge and technical skills, can also enrol for short skills training courses at these institutions. Training programmes consists of apprenticeships, basic and advanced skills upgrading and bridging courses. The VTCs have a nominal entry requirement of grade 10 completion. Due to limited capacities at these centres, the majority of young Namibian who have an interest in such training does not get entry. It is envisaged that the two agriculturally orientated technical programmes being developed by ProVET (namely the Certificate in Farm Machinery and Infrastructure Level 2 and the Certificate in Farm Machinery and Infrastructure Level 3) could ideally be offered at the VTC's. Rundu VTC has shown particular interest in such.

g. **The Meat Board Programme:** The Farmers Mentorship Program is an initiative of the Livestock Producers Forum (LPF) and the Meat Board of Namibia. The program, which currently completed its third year, was initiated to create market access for cattle farmers to produce and market beef cattle for export markets as well as enable export-approved abattoirs in the northern part of the country to operate at full through put levels. Seven regions in the Northern Communal Areas (NCA) benefit from the program where farmers are advised and encouraged to invest in their herds. The program works with a selected number of producers in each of the seven regions to spearhead the process of change in perception in the entire area and attempts to change communal producers' perceptions towards embracing market-oriented systems of production. In the program's 2012 self-evaluation exercise, mentors across the regions estimated that 10% more farmers marketed cattle since the inception of the program. The mentorship program operates in 42 constituencies of the seven northern regions and has 14 experienced mentors who provide training to a total of 948 mentees. Whilst good progress is being made, the program is still limited in its impact since the farmers that directly participate in the mentorship program represent only a small percentage of NCA farm households owning cattle.

3.1.1.2 Private Sector Providers and Agricultural VET Services

a. **Agra Professional Services (PS):** Agra provides a wide range of tailor made training services that also include mentoring. Current training focus is on the training of farm workers, supervisors and managers at introductory and advanced level on all aspects of agricultural production and management (specialisation in livestock management and production). Whilst Agra PS has considerable ability and capacity to make a significant contribution in meeting the training needs and requirements of the agricultural sector, they have not realised their potential as yet due to insufficient funding resources to pay for such services. It should be noted that Agra is a commercial entity that charges market related fees to at least cover costs and make some profits. In this regard a large proportion of commercial farmers are reluctant to pay market fees for training whilst emerging and subsistence farmers do not have the financial means to pay for such.

b. **Agricultural Training Centre Krumhuk (ATCK).** This training centre is located on 45 ha land approximately 30 kilometres outside of Windhoek. The ATCK operates as a Training Trust. Historically ATCK offered a two year programme in agricultural training and a two year programme in farm household management. The facility has training and hostel facilities to accommodate a maximum of 50 residential trainees at a time (and classroom capacity for 120 trainees). The agricultural training programme aims to develop youth with potential to become competent agricultural producers who could either be deployed on farms as managers and/or who could run their own farming enterprises. The two-year course covers a wide range of topics from agricultural production through to record keeping and farm and business management. Whilst the centre has capacity to accommodate approximately 12 students during each study year (25 in total) it is currently under-utilised and there are only 7 students enrolled at the moment in the second year of the agricultural programme. It should be noted that ATCK is in a re-structuring process and it is planning to upgrade and expand its ability and capacity to render more and better services. In this regard it is considering replacing its current two-year programme with the new certificate programmes and qualifications being developed by ProVET for the NTA. In addition it is also planning to offer a range of unit standard based short skills courses (both at the centre and on a mobile and decentralised basis). ATCK is in the process of being registered as an ATVET provider with the NTA.

c. **Agri-Futura.** Agri-Futura provides agricultural training to semi-skilled and unskilled employees and rural communities. The company has numerous training courses (10 in the agricultural field) which are custom-made for the development of people at grass roots level but which can be enriched for trainees at a higher level of development. Training is offered on a decentralised basis throughout the country on farms and in rural and agricultural development centres, various church and community halls, rented facilities, etc. The majority of courses are of one week to two weeks duration and aimed at farmers, farm labourers and school leavers interested to develop skills for the agricultural sector. Courses on offer include:
    - Five emerging farmers' courses in livestock management; livestock marketing; farm finances; animal health; rangeland and pasture management
    - Waterpump installation and maintenance
    - Tractor operation and maintenance
    - Basic arc welding
    - Fencing making and fencing skills
    - Basic vegetable cultivation

b. **WAD (Woman Action for Development).** This institution is geared to capacity building of woman for employment creation and income generation – it also offers training in the agricultural field (namely a vegetable and fruit production course). WAD has training centres namely Omaheneni Training Centre in the Northern part of the Country, and the Hardap and Karas Training Centres both in the southern part of the country. Whilst only one agricultural course is currently being offered (out of approximately 15 types of socio-economic and income generation courses), such could be expanded if a need and funding for such exists. Currently the Omaheneni Centre (near Outapi) offers the Horticulture Course which is 4 months in duration.

c. **The Grootfontein Agri College.** This private school was established in 2011 and offers schooling from pre-primary level to grade 12. Amongst others it offers agriculture as a subject and it has a vision of developing a vocational agricultural stream as a main focus area of the institution. The Grootfontein Agri College has expressed an interest to offer the proposed vocational agricultural certificates currently being developed by ProVET at Levels 2 and 3.

3.1.1.3 Other Agricultural VET Providers (NGO's & Donor Initiatives)

a. **DAPP (Development Aid for People to People).** DAPP has a Vocational Training School located outside Outapi where a range o vocational training courses are offered with the aim of developing young Namibians as craftsmen. It has a capacity to accommodate 150 trainees and courses offered include Office Administration; Bricklaying and Plastering; Business and Secretarial and Community Development. DAPP is also involved in an initiative under the supervision of MAWF which provides training to resettlement projects (e.g. on animal drawn ploughing). In this regard it could be considered as an institution which might be interested in offering other training courses in the agricultural field.

b. **DRFN (Desert Research Foundation Namibia).** NGO with funding support that offers range of capacity building and other training services to land reform and resettlement projects and beneficiaries. Examples of courses are back-yard gardening and poultry farming.

c. **RISE – Rural People's Institute for Social Development :** This NGO with funding support offers a range of capacity building and other training services to land reform

and resettlement projects and beneficiaries. Amongst others they offer a vegetable gardening course.

d. NTA / ProVET. A major effort is currently being undertaken by the Namibia Training Authority to develop unit standards and qualifications in vocational education and training in agriculture. This is being done via one of its projects, Promotion of Vocational Education and Training in Namibia (ProVET), financed by the German Government through the GIZ (for details refer to Chapter 4).

3.1.2 Programmes and Providers at HET Level

In addition to the above list of existing and potential training providers and training initiatives at ATVET level, the following are providers that render education and training services at the higher education level (HET) and which thus strictly fall outside the scope and ambit of this assignment. They are however mentioned as these institutions could make a contribution to also render a service at the VET level should a business case be made for such.

3.1.2.1 The University of Namibia (UNAM)

The University offers a range of study fields within the agricultural and natural resources management field. These include:

- **Bachelor of Science in Agriculture (B Sc Agric)** - 4 years full time
  - Agricultural Economics
  - Animal Science
  - Crop Science
  - Food Science and Technology
- **Bachelor of Science in Natural Resources (B Sc Nat Res)** - 4 years full-time
  - Fisheries and Aquatic Sciences
  - Integrated Environmental Science

3.1.2.2 Neudamm and Ogongo Agricultural Colleges/ Campuses

The colleges are linked to and function as campuses of the Agricultural Faculty of UNAM. The colleges provide education and training to individuals in the fields of agriculture and farming. The graduates will be equipped in such a way as to provide extension services to the community regarding agriculture and natural resources in the country, and to conduct research in the field of natural resources, with the aim of increasing production and productivity. A National Diploma: Agriculture can be followed at both colleges. It includes the following courses: Animal Science and Pasture Science, Crop Science, Agricultural Engineering, and Agricultural Economics and Extension. Practical skills, like welding are also taught at the colleges. The diploma courses can be done in three years of full-time studies. After successful completion of the diploma, candidates can seek employment as extension and research technicians, animal health inspectors, and farm managers, or can be self-employed. The ***N. Dip.: Forestr***y is further offered at **Ogongo Agricultural College.**

3.1.2.3 Polytechnic of Namibia

The Polytechnic of Namibia has a Department of Agriculture that educates and trains Namibians in the agriculture and aquaculture sectors through focused coursework, experiential training, and applied field research, to directly enhance national competitiveness and economic development.

The National Diploma in Agriculture is a four your study programme focussed primarily on natural resource management and utilisation. A further B.Tech Degree (Natural Resource Management) is also offered – which builds on the above Diploma.

3.2 KEY SHORTFALLS AND CONSTRAINTS OF ATVET PROVISIONING

An overall assessment of Agricultural Technical and Vocational Education and Training (ATVET) provision in Namibia shows that it is insufficient to meet the demand for training of a vocational and competency based nature. Shortfalls and constraints include:

3.2.1 Inadequacy of capacity (institutions and infrastructure)

Whilst section 3.1 above indicated a range of potential facilities and institutions that could possibly offer ATVET programmes in the future, such capacity does not exist at present and those institutions already offering and geared to this type of training have limited capacity. Whilst a thorough audit of capacity could not be undertaken as part of this assignment to develop the SSP, it is proposed that a capacity audit be undertaken as a key planning activity. It is our estimate that current capacity is approximately 500 ATVET opportunities or places at any given point in time (both for short and long programmes).

3.2.2 Inadequacy of practical training facilities and equipment

The Namibian government (through the NTA) has agreed to adopt the Competency Based Education and Training (CBET) approach to vocational training. This approach places high demands on the ability of the training provider to provide practical training opportunities where the trainee can develop, practice and demonstrate competence. In this regard few institutions will currently have such ability – facilities, equipment, machinery, practical farming land, farm animals to practice and experiment on, etc. It is proposed that an extensive audit be undertaken to establish what potential institutions have.

3.2.3 Inadequacy of programme / course range to supply all occupations demanded including scarce and critical skills

It is believed that the range of existing learning programmes on offer (both longer duration certificate or diploma type qualifications and short skills courses) do not currently meet the requirements in terms of:

- Adopting the CBET approach and training methodology
- Covering the range of skills needed as identified and outlined in Chapter 2

A need thus exists to take stock of the current programmes on offer and how the above shortfalls could be addressed. Alignment of course offerings with the quality requirements, qualifications framework and unit standards currently developed by NQA, NTA and ProVET will guide providers in this regard. It should be noted that the lack of guidelines, national standards and benchmarks, agricultural unit standards and vocational qualifications for the agricultural sector historically served as a constraint and curtailed training provisioning

3.2.4 Inadequacy of trainer's skills and experience

Very few of the existing trainers have formal training and/or experience in CBET. A large demand thus exists to train and upgrade the existing trainer and instructor fraternity and to develop additional capacity to meet the demand identified in Chapter 2.

CHAPTER 4: STRATEGIC PARTNERSHIPS

This chapter proposes various strategic training partnerships to be established and/or enhanced towards an increased ability to address the sector's training needs. Such partnerships could be between training providers and research institutes, with tertiary education institutions, with employers, with donors and with government. Because government has limited resources to carry out the very wide range of functions and tasks related to agricultural training, it is essential to establish efficient partnerships with various other role players to increase the reach and effectiveness of efforts aimed at agricultural skills development. This chapter discusses some of the key partnerships that need to be established or strengthened.

4.1 Building and supporting partnerships to increase training capacity, facilitate access to training and enhance the quality of training programmes

Earlier chapters of the SSP indicated that there is a shortage of training providers offering agriculture related vocational training programmes and that a need exists to increase the training capacity and ability if the demand for training is to be met. To this end the following strategic partnerships are proposed:

4.1.1 Partnerships with and between the potential stakeholders and institutions listed in Chapter 3 that could possibly be used in offering and facilitating ATVET through making their staff, facilities, equipment and machinery available to provide and host such training. These facilities and institutions are distributed and ideally located throughout Namibia and will greatly enhance access to training in especially the rural areas.

4.1.2 Partnerships need to be established between training provider institutions and selected farmers who have farms suitable and capable of facilitating practical training. The decision to offer CBET demands extensive practical training facilities where trainees can practice and demonstrate competence. Since few institutions will have farms and the range of facilities, equipment, farm machinery, farming land, farm animals, etc. to provide the required practical training and exposure, partnerships and agreements with farmers will be needed to make their farms available for training purposes.

4.1.3 Partnerships to develop training courses and training materials. A comparison of the size and scope of training demand (Chapter 2) and the supply of training (Chapter 3) reveal that the current range of vocationally orientated agricultural training programmes fall well short of meeting the type and range of skills demanded by the sector. This implies that a wide range and spectrum of training courses will have to be developed. The enormity of the task on hand demands a partnership approach between all the stakeholders and parties who could make a contribution to the development of training courses and training materials. Such partnerships must facilitate and enhance a well coordinated approach where all stakeholders and parties cooperate and undertake the task as a joint effort. To facilitate cooperation funding for course development must be provided to the partnerships (as opposed to individual parties) and agreements developed in terms whereof the developed courses and material be made available to all providers who have been registered and have attained accreditation status by the NTA. A good example in this regard is the partnerships created by the NTA (e.g. in the form of the Technical Working Groups) that ProVET assists in the development of agricultural unit standards and the proposed vocational qualifications.

4.1.4 Partnerships to ensure a sufficient number of suitably trained trainers and instructors who can offer competency based training. In view of the fact that CBET is a relatively new approach to training in Namibia, a large number of trainers will have to be re-trained to this approach. It is proposed that partnerships with relevant institutions (e.g. UNAM, the Polytechnic, NIPAM and NAMCOL) be established to make their expertise and capacity available and to assist with the retraining and upgrading of the existing training fraternity and to train and develop new and additional trainers in meeting the demand.

4.1.5 Partnerships and cooperation between training providers to avoid duplication and to facilitate a sharing of resources and capacity. The wide range and scope of training needs to be addressed would suggest that an allocation or demarcation of training fields between providers (and subsequent specialisation) could be a suitable way to ensure that the full spectrum of needs is addressed and that unnecessary duplication (leading to over-supply in some fields and under-supply in others) does not occur.

4.2 Other strategic partnerships and joint ventures with stakeholders in the agricultural and training sectors

4.2.1 Partnerships must be established between the NTA and selected providers who are willing to implement and test new qualifications, curricula and training materials. In this regard a need will soon exist for suitable providers to implement and test the newly proposed unit standard based vocational certificates in agriculture on a pilot basis.

4.2.2 Partnerships must be established and/or enhanced between training providers, higher educational institutions and research institutes. There should be strong mechanisms in place to transfer new technologies from where it is generated (mainly at research organisations in Namibia and abroad) and to disseminate such to vocational training providers so that they can in turn train and capacitate farmers to implement such.

4.2.3 Partnerships must be established and/or enhanced between training providers and other stakeholders in the agricultural sector (industry and employers) to ensure that the curriculum and other aspects of training provision are responsive (relevant and geared to workplace needs). Those potentially involved could reconsider the need for a Namibian chamber of agriculture that could play the lead role in this. There also need to be strong feedback mechanisms between skills provision and subsequent skills application. This could be in the form of formalised tracer studies where emphasis is placed on the applicability of the curriculum and effectiveness of skills transfer amongst former trainees. It could also be in the form of regular consultation with employers regarding their training needs. This partnership should also be used to promote awareness of the type and range of training programmes available to employees.

4.2.4 Partnerships must be established and/or enhanced between training providers and donors. In general the development community realises the importance of vocational training and agricultural training to facilitate rural development. Therefore training providers and donors could strengthen ties to ensure that funding and other forms of assistance are properly managed to roll out agricultural vocational training.

4.2.5 Partnerships must be established and/or enhanced between training providers and input and equipment suppliers. An opportunity exists for training providers to seek commercial sponsorship and/or other assistance from agricultural input and equipment suppliers. These businesses have a mutually beneficial interest to assist with the production of modern, up-to-date training materials and equipment and are in a very good position to do so in terms of making expertise and finances available. Input and equipment suppliers could, apart from assistance in the development of training material, also assist with the actual delivery of training in their respective specialisation fields, and/or making specialised training equipment and machinery available (either as donations or at a discounted price). Examples where good opportunities for such partnerships exist are in training fields related to mechanisation, irrigation, fencing, animal health, pest and weed control, animal feeding and plant nutrition.

4.2.6 Collaboration partnerships to create capacity and ability in providing specialist training. Such partnerships will comprise of representing the education and training fraternity, research organisations, government for policy direction, private sector to represent the workplace, etc. The following are two examples of such collaboration partnerships to address specific training related needs in Namibia:

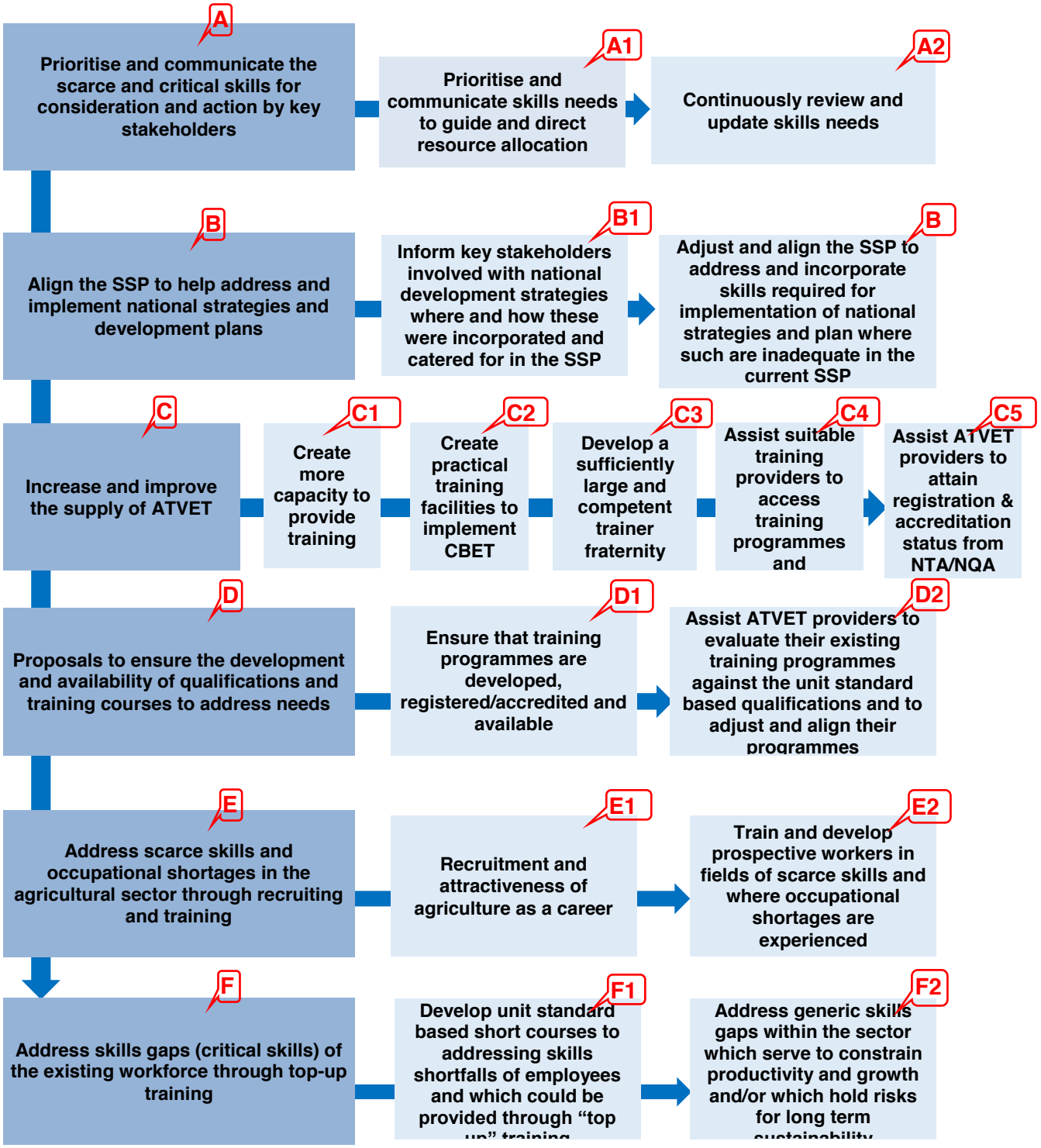
- Skills related to value addition to agricultural produce. Parties to be joined in a collaboration partnership will typically include a vocational training provider such as ATCK (already offering related training); the University of Namibia's Department of Food Science and Technology; a selected food processing company; a selected food retailer.
- The second example relates to specialist expertise in providing training on farming systems relevant to arid areas. Such a partnership could typically be established between the MAWF Directorate of Research and Training (DART), the University of Namibia's Faculty of Agriculture & Natural Resources, together with relevant international partners such as the Arid Agriculture University (Rawalpindi, Pakistan), the International Center for Agricultural Research in the Dry Areas (ICARDA); possibly an international (Israeli) research organisation specialising in the field such as the Ben Gurion University of the Negev; local training providers which could translate these arid area farming know-how into vocational training will typically be the Tsumis Arid Zone Agricultural Centre (TAZAC), ICRISAT and/or the Desert Research Foundation Namibia.

CHAPTER 5: STRATEGIC PLAN

This chapter consolidates key findings from the previous chapters and outlines a strategic plan for addressing skills needs in the sector over the implementation period. Those issues selected as priorities and which have been included in the Strategic Plan are the following:

- Prioritise needs and communicate such to stakeholders for consideration and action
- Plans and activities for building skills of prospective workers (new labour market entrants) and existing workers towards addressing scarce skills and occupational shortages in the agricultural sector
- Plans and activities for addressing skills gaps of the existing workforce (training to address critical skills through top-up training)
- Plans and activities aimed at increasing and improving the supply of ATVET
- Proposals related to new qualifications and programmes capable of addressing identified priority needs
- Measures to align the SSP to help address and implement national strategies and development plans

The following figure maps out the different strategies together with the related actions and action steps to be taken (the red markings provide references for further detail pertaining to each strategy and/or action).



A further breakdown of these strategic priorities and actions are as follows:

STRATEGY OR OBJECTIVE	ACTIONS	OUTPUTS	LEAD AGENCY AND ROLE-PLAYERS	TIME FRAME
Strategic priority A: Prioritise and communicate the scarce and critical skills for consideration and action by key stakeholders				
To prioritise, communicate and review vocational skills needs of the primary agricultural sector	**Action A1: Prioritise and communicate skills needs of the agricultural sector to guide and direct resource allocation**: • The scarce and critical skills needs of the sector (identified as part of the development of the SSP and as reflected in Chapter 2: Demand) should be **prioritised** by the ISC to facilitate decisions regarding the allocation of scarce resources. • These needs and the priorities selected should be **communicated** and disseminated to stakeholders in the sector for action, (including the MAWF, the Ministry of Home Affairs and Immigration (to identify scare skills for immigration planning), training providers, schools, career advisors, publishers of career information ,etc.	• List of prioritised skills needs for the primary agricultural sector • Guidelines for the allocation of resources (e.g. via the National Training Fund) towards addressing priorities • Priorities and guidelines communicated to stakeholders for actions • Stakeholders sensitised to where they should focus attention	Agric Industry Skills Committee (ISC) NTA and NTF (for funding allocation) Training Providers	2013/11 – 2014/05
	Action A2: Continuously review, update and improve the identification of scarce and critical skills: • Make use of the **Agricultural Census** to be undertaken in 2014 (and future repetitions of it) to research and collect detailed information pertaining employment statistics, the skills profile and skills needs of the agricultural sector. • It is proposed that the Agriculture ISC (or an assigned representative on its behalf) engage with and consult the Namibia Statistics Agency to ensure that the information requirements and fields needed to improve data for the upgrading of the SSP is included and covered during the Agriculture Census. An initial review of the proposed Census data collection instrument (questionnaire) revealed that a considerable range of data requirements have not been included as yet and this is thus a priority action • Update this first SSP annually with the new and improved statistics and information to be obtained from Agricultural Censuses and other future information sources.	• Proposals developed for inclusion in the Agricultural Census data collection instruments to ensure that training ands skills related information needed for the SSP is collected provided to NSA • Agricultural Census collects information needed for updating the SSP • This first SSP updated and improved with the new information collected via Agricultural Census	Agriculture ISC NSA (responsible for Agric Census) NTA (ProVET) to update SSP	2013/012 2014/08 2015/02
Strategic priority B: Measures to align the SSP to help address and implement national strategies and development plans				
To coordinate and align skills development with broader development initiatives and the resultant demand for skills	**Action B1: Inform the drivers and key stakeholders involved with various national growth and development strategies where and how these were incorporated and catered for in the SSP and/or of opportunity to get skills needs listed and included**: • Make people responsible for implementation of national strategies and plans aware that the SSP has specifically included scarce and critical skills related to their programme /strategy / project and that they could thus expect the supply of such required skills and/or trained labour. • Provide opportunity to the drivers of such programmes to engage with the ISC and other roleplayers within the NTA to update information related to the skills requirements of their strategy/plan/programme/project and include such in the SSP.	• Key drivers of national and sectoral development strategies made aware of how the SSP could assist in meeting agriculture related skills needed for implementation of their strategies • Continuous liaison with roleplayers to obtain latest information re skills needs	Agriculture ISC (and larger NTA) Other Government Ministries and Agencies	2014/01 – ongoing

	Action B2: Adjust and align the SSP to address and incorporate skills required for implementation of national strategies and plan where such are inadequate in the current SSP: • Based on the information and feedback obtained from Action B1 above, adjust the priority skills requirements listed and catered for in the SSP to include those needs that have not been included and / or prioritised as yet.	• The SSP continuously updated with new skills requirements in support of national growth and development strategies Reviewed documentation		2014/02 – ongoing
Strategic priority C: Increase and improve the supply of ATVET				
To develop more (increased) and improved ATVET capacity - capable of addressing the identified demand for training to the required standard	**Action C1: Create more capacity (institutions and infrastructure) to provide training**: • Undertake an audit at all those institutions and centres/facilities identified and earmarked as **key providers** of the proposed ATVET programmes (listed in Chapter 3 e.g. Mashare, Tsumis, ATCK, etc.) to establish what improvement, upgrading and expansion is needed. • Obtain approval and funding for such upgrading and improvements and implement such. • Undertake an audit at all the other institutions and centres/facilities identified as having the **potential** to become training providers and/or training delivery partners in an attempt to create the required training capacity to meet the demand (listed in Chapter 3 e.g. at the Agricultural Research Stations, at the National Youth Centres, at the COSDECS, at the VTC's, etc.). • Where such facilities/institutions were found suitable obtain approval and funding for such upgrading and improvements and implement such.	• Training Provider Audits of all the key provider institutions – indicating existing and future (potential) capacity • Upgrading/expansion proposals with financial implications and funding proposals • Increased capacity through upgraded and expanded facilities and institutions	NTA (via ProVET) MAWF for its training centres and facilities Other Government Ministries and agencies Private Providers	2014/03 – 2014/05 2014/04 – 2014/07
	Action C2: Create practical training facilities to implement CBET: • Where the above training centres/facilities do not have the required practical training facilities where trainees can develop, practice and demonstrate competence (e.g. equipment, machinery, practical farming land, farm animals, etc.), a need exists to find such in the proximity of the centre (e.g. on suitable farms in the area) • Undertake an investigation to find such farms and establish cooperation and partnership agreements with the owners to use their farms as demonstration and training units.	• Farms or other practical training facilities capable of meeting and addressing CBET requirements identified • Agreements signed with owners of facilities to use such for training • Access to practical facilities (CBET) secured	NTA (via ProVET and ISC) Owners of farms or practical training facilities	2014/03 – ongoing
	Action C3: Develop a sufficiently large and competent trainer fraternity in Namibia capable of presenting the training: • Undertake an audit to establish the number and profile of existing ATVET trainers within Namibia. • Establish what upgrading and retraining they require to meet CBET and other requirements to be registered as competent trainers with the NTA. • Create the capacity to provide train-the-trainer programmes for those trainers requiring retraining and upgrading. • Enrol those trainers who need upgrading and who are interested to become CBET trainers.	• Clear knowledge and understanding of the ATVET trainer capacity that exists in Namibia • Knowledge re the size and scope of the demand for retraining and upgrading • Train-the-trainer capacity established • An upgraded ATVET trainer fraternity with competence in the field of CBET	NTA (via ProVET) ATVET Providers (to cooperate) CBET Train-the-Trainer Provider	2014/03 – 2014/07
	Action C4: Facilitate and assist suitable training providers to get access to training programmes and qualifications: • Place the qualifications, training programmes and training materials to be developed (refer Strategy Priority D below) in the public domain where training providers can have free and easy access to such.	• ATVET programmes of a CBET nature and format (aligned to the registered certificate qualifications) are available to and accessible by registered Training Providers.	NTA (via ProVET)	2014/06 – ongoing

	Action C5: Assist ATVET providers to attain the set standards and criteria for obtaining registration and accreditation status from NTA/NQA: • Provide assistance and support to selected ATVET providers in addressing shortfalls and constraints that prohibit them in obtaining registration and accreditation status.	• A group of ATVET providers which has attained the set standards and requirements and enjoy recognition as registered and accredited providers from the NTA	NTA (via ProVET) Consultants who can assist with accreditation Training Providers	2014/01 – ongoing
Strategic priority D: Proposals to ensure the development and availability of qualifications and training courses to address needs				
To establish a vocational qualifications framework for the agricultural sector and facilitate the development of qualifications and training programmes that meet the set content and quality assurance standards	**Action D1: Ensure that the required training programmes (longer duration certificates and short unit standard based skills courses) are developed, registered/accredited and available**: • The unit standard based certificate qualifications (longer duration programmes) proposed by NTA/ProVET will have to be completed /finalised, agreed and registered by the NQA on the National Qualifications Framework (curricula) and made available to the selected providers for consideration. • Development of curricula and learning material needed to offer the registered qualifications. It is proposed that such courses and training material be developed on a joint venture basis with funding support from government and placed in the public domain (made available to registered providers free of charge). • The development of unit standard based short skills courses (initially covering those fields selected by the ISC as top priority needs). It is proposed that such courses and training material be developed on a joint venture basis with funding support from government and placed in the public domain (made available to registered providers free of charge). • Establish training partnerships with and between various stakeholders and interest groups in the agricultural and training sectors towards developing the capacity that will be needed to develop the big range of training courses. • In developing the courses and qualifications the CBET approach and training methodology must be adopted and incorporated and provider capacity developed for competence in this training approach.	• Finalised vocational agricultural qualifications (range proposed by NTA via ProVET) registered on NQA • Partnerships needed for sufficient (pooled) capacity to develop large range of courses established and working together • Training programmes (curricula and material) developed, registered and available for use by registered training providers • CBET training principles incorporated into courses and curricula	NTA (via ProVET) NQA Education and Training Fraternity in Namibia (course developers) Training Providers	2013/11 – 2014/06 for top priorities Ongoing for further courses
	Action D2: Assist ATVET providers to evaluate their existing training programmes against the unit standard based qualifications and to adjust and align their programmes to these registered and accredited programmes: • A need exists to take stock of the training programmes currently offered by ATVET providers and how such could be aligned with the quality requirements, qualifications framework and unit standards currently developed by NTA and registered on the NQA. • Assist providers individually and/or establish training partnerships with and between various stakeholders and interest groups in the agricultural and training sectors towards developing the capacity that will be needed by providers in aligning their current courses and/or developing the big range of new training courses to be developed.	• Existing courses of training providers adapted and aligned to the registered qualifications and/or unit standards • New training programmes and courses meeting the requirements and specifications developed and available	Training Providers NTA	2014/03 – 2014/06 for top priorities Ongoing for further courses

Strategic priority E: Address scarce skills and occupational shortages in the agricultural sector through recruiting such skills or through training existing and prospective workers (new labour market entrants) in such fields/occupations				
To develop and promote agriculture as a vibrant career and to develop people who possess the range of skills needed by the agricultural sector and capable of optimising opportunities that exists in the sector.	**Action E1: Improved total or overall Recruitment**: Make the agricultural sector (and the farming sub-sector in particular) more attractive to attract the youth and good quality (high potential) candidates to the sector. Address and overcome negative perceptions and connotations amongst sections of the youth through the following actions: • Create career paths for people in the sector and disseminate such information to school leavers and other prospective workers. • Continuously stress the importance of improving the image of careers in the agricultural sector and urge stakeholders to improve the working conditions on farms to overcome negative perceptions (whilst outside the direct scope of the SSP). • Promote agriculture as a vibrant career (especially at high school level, amongst pupils, teachers and career advisors) and to people who want to make career changes as well as persons re-entering the job market. Recognise that the sector does not have a very good image in certain sections of the population and promotional efforts alone may be ineffective unless it is coupled with proper career path design as explained elsewhere in this section. • Promote agriculture as a career option by encouraging extension officers and other agricultural advisors to promote and persuade farmers to enrol for training that will develop their competencies and prepare them for career advancement opportunities. To this end Extension Officers and Advisors must be made aware of training opportunities available, be supplied with brochures, contact numbers of providers, etc. • Create a less hostile and/or more enabling environment for small scale farmers through enhancing access to finances, loans, technical advice and support (whilst outside the direct scope of the SSP).	• Improved perceptions of agriculture as a career amongst the potential target group (youth) • Career paths and improved working conditions resulting in improved ability to retain good employees for the sector • More and good quality candidates interested in agricultural careers • Improved ability to recruit people to address scarce skills	NTA MWAF (Extension staff) Ministry of Labour Farmers and farming sector at large Schools and Career Guidance teachers	2014/01 – ongoing

	Action E2: Train and develop prospective workers in fields of scarce skills and where occupational shortages are experienced. Activities and actions in this regard include:
	• Developing qualifications and accredited training programmes that develop the skills and competencies needed in the scarce occupations (or scarce skills fields).
	• Market and promote such learning opportunities (and careers) amongst school leavers and other prospective work seekers.
	• Ensure that the qualifications cover the following areas (occupations) that have been identified and selected as scarce skills areas:
	  ○ The shortage of farmers within the emerging and communal farming sub-sectors who view farming as a business and who have an entrepreneurship orientation (farm management and business management qualifications).
	  ○ The shortage of technically competent farmers within the emerging and communal farming sub-sectors who farm in a scientifically correct manner (animal husbandry/production; crop husbandry/production and farm machinery, equipment and infrastructure maintenance and operation qualifications).
	• Ensure capable providers and sufficient capacity to offer the training at the required standard and in sufficient numbers to address the demand (refer to Strategic Priority C for details).
		• Qualifications and training programs needed to address identified high priority scarce skills developed and available
		• An interest developed and existing amongst potential candidates to enrol for such training
		• Candidates (of the required quantity and quality) enrolled for courses
		• Capacity exists and training provided to address and overcome scarce skills (shortages)
			NTA
			Agriculture SSC
			Farmers and Schools
			Training Providers
				2014/07 – ongoing

Strategic priority F: Address skills gaps (critical skills) of the existing workforce through top-up training				
To address skills gaps and competency shortfalls experienced by the existing workforce	**Action F1: Developing unit standard based short skills courses and programmes geared towards and capable of addressing skills and competency shortfalls of employees and which could be provided through "top up" training and offer such training**: • Ensure that the training courses to be provided cover the skills sets identified as being in high demand (top priorities selected by the ISC) and needed for competence in the various key occupations in the primary agricultural sector. • Develop the courses and programmes selected as high priorities (refer Strategy D) • Market and promote the skills courses and training opportunities amongst farmers and their employees and encourage them to take up such training opportunities. This may include encouragement of their employees to enrol for training, as well as providing them with the opportunity (study leave and/or funding support) to realise training opportunities. • Ensure capable providers and sufficient capacity to offer the training at the required standard and in sufficient numbers to address the demand (refer to Strategic Priority C for details). • Present the training in required numbers to people within the sector who need to be re-trained and or need to upgrade their skills as a means of addressing skills gaps or performance shortfalls.	• Short skills training programs needed to address identified high priority critical skills developed and available • An interest developed and existing amongst potential candidates to enrol for such training • Candidates (of the required quantity and quality) enrolled for courses • Capacity exists and training provided to address and overcome skills gaps (critical skills)	NTA Agriculture SSC Farmers Training Providers	2014/07 – ongoing
	Action F2: Address generic skills gaps within the sector which serve to constrain productivity and growth and/or which hold risks for long term sustainability of the agricultural sector: • Low literacy and numeracy levels - both amongst workers within the sector at large and at owner/manager level in many of the small-scale farming enterprises. • The general need to increase compliance with environmental, occupational health and safety, animal welfare, produce safety and hygiene standards, regulations and requirements (local and international standards). • Training marketed amongst farmers and their workers to establish need and interest. • Training programmes sourced from other relevant sectors (these are generic programmes) • Trainees enrolled on ABET and other programmes	• ABET programmes for literacy training and other generic unit standard based programmes (both from other sectors) available for training employees needing such training	NTA Various relevant Industry Sector Committees Farmers Training Providers of ABET and generic programmes	2015/01 – ongoing

ADDITIONAL REMARKS:

The following are additional remarks and comments of a strategic nature that should be considered as part of a total Strategic Plan aimed at addressing skills needs of the primary agricultural sector:

- **The need to develop an ATVET Policy for Namibia**. Although there is a general understanding and agreement that ATVET is needed in Namibia, training takes place in an ad hoc manner due to the lack of a comprehensive policy that facilitates and guides the identification of priorities, allocation of resources and setting the parameters for service delivery.

- **Enhance the capacity of government to provide support for agricultural training in a well-coordinated manner**. This should include the proper funding and management of institutions such as the NQA, NTA, Ministries of Education, Labour and Agriculture (training as well as extension services). These institutions, together with partners as explained below, should work together in a more coordinated and integrated manner (with open and well-functioning communication channels) to prevent a fragmented approach ("working in silos") to enhance the common vision of skills development in agriculture. The above recommended ATVET policy could assist in this regard.

- **After the skills levy is introduced, a strategy must be put in place to ensure that the agricultural sector gets a 'lions share" of the key priority grant funding.** A strategy is needed to ensure that agricultural sector training is sufficiently funded, especially since the overwhelming majority of enterprises in the sector will not pay the levy and will thus qualify for training refunds. The strategic nature and importance of the sector however makes it a top priority sector to qualify for funding in the form of key priority grants for so-called "strategic projects". The business case of the sector needs to be prepared and motivated to the NQF.

- Prior to finalising the unit standard based agricultural qualifications currently being developed, it is proposed that the following be consider as design and planning principles and guidelines:
  - **Proper career pathing in agriculture:** Skills planning and career path design should include opportunities for horizontal articulation (to enable employment in another occupation), vertical articulation (to enable career progression within the same occupation), skills portability (to enable employment in another industry) and job enrichment (to make the occupation or job more diverse, interesting and facilitate skills development even in a highly routine job). It is also important to allow for specialisation (within realistic limits) in the design of the qualifications.

  - **Open entry:** A diversity of fairly accessible entry points at a diversity of levels into the different occupations needs to be provided for by the qualifications framework. Entry requirements at unit standard level should be as open as possible without unnecessary restrictions or assumptions that all trainees are progressing through the entire/full qualification. This will allow more fluid vertical and horizontal articulation. In this regard the Recognition of Prior Learning (RPL) policy adopted by the NTA will make it possible for people with good experience to qualify and enrol for training programmes even though they may not have the academic or educational qualifications usually set as entry requirement for such programmes. It will also provide such candidates with the opportunity to undergo competency tests for selected components of a course or qualification and obtain credits for such if they meet all the set performance and competency standards.

- **Life-long learning and refresher courses:** The concept of receiving a qualification, never to be trained again, is in strong contrast to the modern economy where skills requirements regularly change due to external factors such as demand for different agricultural products, technological change, increased competition etc. Therefore life-long learning through short refresher courses (e.g. workshops on the latest developments), continual professional development, and the issue of horizontal and vertical articulation, needs to be facilitated by the qualifications framework.

- **Value Addition and Processing**: This inaugural SSP for the Agricultural Sector did not give attention to the skills needs of the sector to optimise agricultural value adding activities and opportunities (especially on-farm value addition activities that could be undertaken by farmers to increase farm viability and feasibility). Whilst little demand was expressed for value addition during the undertaking of the project, there is a world-wide trend of growing interest amongst farmers to undertake a variety of value adding activities (including small scale processing) towards developing additional income generation streams and opportunities. It is thus proposed that the issue of small scale and on-farm value addition be investigated in further depth (possibly as a dedicated study) and that the training needs and subsequent training interventions needed for optimising available opportunities be established and that the second SSP report on such.

- **Environmental Management and Sustainability:** A need was expressed that the next update of the Agricultural SSP gives more in-depth attention to aspects of sustainability and environmental management. Aspects that could receive special attention include:
  - Sustainable rangeland management
  - Sustainable arid area farming techniques and management of environmental risks, especially preparation for drought and climate change
  - Sustainable innovative rural livelihood technologies and alternative small scale farming techniques
  - Integrated wildlife-livestock farming and ecotourism

REFERENCES

Martin S. Mwinga (2012): Unemployment in Namibia: Measurement Problems, Causes & Policies; FIRST CAPITAL WORKING PAPER SERIES; Windhoek

Namibia Labour Force Survey 2012. Namibia Statistics Agency, 2013. Windhoek

Namibia Labour Force Survey 2008. Namibia Statistics Agency, 2009. Windhoek

The Namibia Occupational Wages Survey (NOWS 2009). Prepared by the Namibia Ministry of Labour.

Republic of Namibia National Human Resources Plan 2010–2025 (NHRP); Office of the President - National Planning Commission. ISBN: 978 99945-0-065-9

Frederico Links (2010): Namibia's Skills Deficits: Cross-Sectoral Perceptions and Experiences; Commissioned by Namibian Employers' Federation (NEF) and the Ministry of Labour and Social Welfare,

Markus Fiebiger (2010): The Small-Scale Irrigation Farming Sector in the Communal Areas of Northern Namibia – An Assessment of Constraints and Potential; SLE Publication Series – S 242 – Humboldt University Berlin

John Mendelsohn (2006): Farming Systems in Namibia; Published by RAISON (Research & Information Services of Namibia) for the Namibia National Farmers Union ISBN: 99916-780-4-2

CAADP (2013): Promotion of Technical Vocational Education and Training (TVET) for the Agricultural Sector (ATVET) in Africa: Country Report Namibia. Prepared by AFC Consultants International (AFC-PN: 4072)

Education Management Information System (EMIS) (2012); Namibia Ministry of Eduction – Directorate of Planning and Development. ISSN 2026-7533

Kajsa Adams and Kevin Toovey: Training Needs Survey Report – September 2011. Working document of the Agriculture ISC.

ANNEXURE 1:

PROPOSED SKILLS RELATED QUESTIONS TO BE INCLUDED IN THE AGRICULTURAL CENSUS TOWARDS MEETING INFORMATION NEEDS OF THE AGRICULTURE SSP

The following are proposed questions to be considered for inclusion in the 2014 Agricultural Census as a means of addressing skills and training related information needed to update and improve the Agriculture Sector Skills Plan (SSP).

Proposals are made for additions to both:

- The 2014 NCA Commercial, Private Large Scale, Government Farms Questionnaire
- The 2014 NCA Communal Agriculture Questionnaire (19 June 2013 version)

NCA COMMERCIAL AND LARGE PRIVATE FARMS QUESTIONNAIRE

The overall comment on the proposed NCA data collection instrument/questionnaire is that there or no questions related to the qualifications, knowledge and skills level of people in the sector nor does it ask questions that will collect information regarding their training needs.

To address these shortfalls the following are proposed:

1. Expand and improve Section C. 09 Labour to include

Section C.09 Labour

From a Sector skills Plan (SSP) perspective this is the key section within the questionnaire since the human resources profile of the sector will be developed from this section. For this reason it is inexplicable why the current questionnaire does not gather information regarding the qualifications, knowledge, skill and experience levels of people employed in the sector.

It is thus recommended that the following additional information fields be covered by the questionnaire (in terms of current instrument possibly as additional questions 28 (a, b, c)

- The number of years experience that people have in agriculture (info needed for people listed in each of the following job categories – proprietor/farmer; management; skilled agriculture (including operators and technical); unskilled labour). Experience categories could be 20 years and more; 10 – 19 years; 5 – 9 years; 1– 4 years; none.

- The qualifications that people hold (info needed for each of the above job categories or groupings). Qualification categories could be degree; diploma, certificate (post school); senior secondary; junior secondary; primary school; none / illiterate.

2. Collect information related to skill levels and skill requirements.

The current questionnaire does not collect information related to skill levels and/or skill requirements that respondents have (which are deemed to be a big shortfall or weakness). To address this problem area the following are proposed as two potential options or solutions:

2.1 The first option proposed is that the Skills Sets (Table 2.5 in the SSP) be used as basis for determining the skills base and skills needs of respondents and their farming ventures. The information template could be prepared to include the following additional fields:

Skills Set No	Description of Skills Set	Is this skills set relevant to your farming operation 1 = Yes 2 = No	If Yes rate your (you and your workforce) level of competence in field 1 = Poor 2 = Medium 3 = Good	Would you want yourself or your staff to be trained in this skills set 0 = no need for training 1 = small need 2 = medium need 3 = high priority need	If training is needed - how many people would you want to enrol for such training in the next year (give actual number)	If training is needed- how many people would you want to enrol for such training after next year (give actual number)
1	Insert shortened description of skills set as from SSP Table 2.5					

2.2 The alternative option is to include a section on training to each of the relevant functional fields where specific training related information is collected related to that section or functional field The following are submitted as examples of such "training questions" to be developed for all relevant sections:

Section C.06: Irrigation

Include a new question 23(a) to establish skill levels and training demand related to irrigation:

Skills Serial No	Type of Skills: 1 = Assessing irrigation investment decision 2 = Irrigation infrastructure and equipment (operation, construction, maintenance, repair) 3 = Irrigation scheduling (water requirements of different plants and soil types)	Has the skills: 1 = Yes 2 = No	Indicate need and priority for getting related training: 0 = no need for training 1 = small need 2 = medium need 3 = high priority need

Section C.08 Farm Machinery

Include question 26(a) to establish skill levels and training demand related to operation, maintenance and repair of farm equipment and machinery and :

Skills Serial No	Type of Skills: 1 = Basic mechanical skills for repair and maintenance of equipment and machinery 2 = Operation of farm equipment and machinery (tractors, harvesters, planters, etc.) 3 = Establish and maintain farm infrastructure (fences, dams, stores, pens, troughs, windmills,etc.	Has the skills: 1 = Yes 2 = No	Indicate need and priority for getting related training: 0 = no need for training 1 = small need 2 = medium need 3 = high priority need

3. Collect data related to training services received by respondents

Very little data is collected in terms of the type and range of training services provided to farmers (what training they have received). To address this it is proposed that the relevant section be expanded with the following additional information requirements and fields:

Section C.07: Agricultural Inputs

Expand question 25 “Were Agricultural Services Provided?”. For those respondents that indicate that they have receives “Training”as an input, request more information and detail of what training – possibly as a next table. Cover following information fields:

- Course name
- Who was Service Provider
- Was it registered and accredited training
- Course duration
- Number of people enrolled on the course
- Was it free training or did they have to pay for it
- Date when training was received

NCA COMMUNAL QUESTIONNAIRE

The overall comment on the proposed NCA Communal data collection instrument/questionnaire is that there or no questions related to the knowledge and skills level of people in the sector nor does it ask questions that will collect information regarding their training needs.

Comments and recommended additions or changes are the following:

1. With the exception of point 2 below, most of the comments and proposed additions to the Commercial Questionnaire also applies to the Communal Questionnaire.

2. In contrast to the Commercial Questionnaire this Communal Questionnaire do collect information related to the educational level of respondents (Section 02) and thus do not require action.

3. This Questionnaire has a ***Section 19: Labour Inputs*** (which is not in the Draft Commercial Instrument). It however does not collect any information pertaining to current skills that labour have (as related to different farming activities) – nor does it collect information on what their training needs are.

   To address this shortfall the following are proposed:

   3.1 Use the same Skills Set Questions and table proposed for the Commercial Questionnaire (refer 2.1 above), or alternatively

   3.2 Apply the functional fields already used in Section 19 and ask relevant skills and training questions related to such fields as per the proposed table below.

Work Serial No	**Work Operation Type** 1. Ploughing 2. Planting 3. Weeding 4. Pruning 5. Harvesting 6. Bush cleaning 7. Herding 8. Feeding 9. Milking 10. Fish farming 11. Construction/maintenance 12. Spraying 13. Baboon scaring 14. Bird scaring	Indicate which of the work operation fields are relevant to your farming operation 1 = Yes 2 = No	For the work fields marked Yes rate your (you and your workforce) level of skills (competence) in the field 1 = Poor 2 = Medium 3 = Good	Would you want yourself or your staff to be trained in this work field 0 = no need for training 1 = small need 2 = medium need 3 = high priority need	If training is needed - how many people would you want to enrol for such training in the next year (give actual number)	If training is needed- how many people would you want to enrol for such training after next year (give actual number)

ANNEXURE 2:

DRAFT UNIT STANDARD BASED AGRICULTURAL QUALIFICATIONS UNDER DEVELOPMENT BY THE NTA