

Culinary mapping and tourism development in South Africa's Karoo region

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Abstract

Successful development of cuisine as a niche tourism product has been portrayed in various countries in the world. The paper argues that the Karoo provides evidence of a substantial culinary resource base and an established local food identity. This, in turn, can be promoted as a tourism destination by means of culinary mapping. Geographic Information Systems (GIS) tools are used, supported by a culinary database with information compiled from various sources in literature, the internet, lifestyle magazines, recipe books, census data and tourism structures. A proposed culinary route/itinerary synthesizes the data, identifying authentic food experiences as a niche tourism product, based on a regional cuisine.

Keywords: Culinary mapping, cuisine tourism, local food identity, regional cuisine, Karoo.

Introduction

Tourism is an important means of regional development (Hall 2006). Increasingly, there is a recognition that regional cuisine is an important niche tourism asset in regional tourism strategies (WTO, 2015; WTO, 2012). In recent years, food has become a central part of the tourism experience. Cuisine is a dynamic and creative segment of tourism with the ability to strengthen and diversify local economies by supporting the local food culture (Skift, 2015; WTO, 2012). The linkage between food and tourism also contributes to the branding and marketing of a regional destination (Atkinson, 2015; Hjalager & Richards, 2002; OECD, 2012; Skift, 2015; Yeoman & McMahon-Beatte, 2016). An authentic food experience has become increasingly important to those travellers who seek a holistic immersion experience within a local culture (Björk & Kauppinen-Räsänen, 2014; Pine & Gilmore, 1999). Local food types provide a glimpse of the local culture and the milieu of a region (Björk & Kauppinen-Räsänen, 2016; Richards, 2012).

This paper promotes an understanding of culinary tourism by means of culinary mapping. It illustrates this argument by proposing a culinary route in the arid Karoo region of South Africa, based on an authentic regional cuisine as a niche tourism product.

Food, cuisine and tourism

The skilled, thoughtful, refined cooking belonging to a particular style and group of people, is termed "cuisine" (Long, 2003). Food is ingrained in the culture of a group of people, and it reflects their heritage. Cuisine, or a local food culture, reflects the ways in which a particular

social group thinks about food and their cooking style. It includes the basic foodstuffs available locally, as well as typical flavours and eating habits characteristic of a specific cultural group (Geldenhuys, 2006). Regional cuisine is defined by three criteria: geography, homogenous food culture and defining dishes that are unique and noteworthy (Sackett & Haynes, 2012). A regional defining dish unmistakably represents a particular culinary region and is singular enough to be readily distinguished from the dishes of all other regions. Recipe books reflect a variety of defining dishes and the utilization of the local produce. They reflect the typical ingredients, cooking methods, seasoning and flavouring. A regional cuisine is a unified style of cooking common to most of the people living in a culinary region and reflects the attitudes about the food and eating etiquette of the people in the region (Essop, 2012).

Regional cuisine, branding and tourism: A new international trend

Culinary tourism includes any tourism experience in which one learns about, appreciates, and/or consumes food and drink that reflects the local, regional, or national cuisine, heritage, culture, tradition, or culinary techniques (OCTA, 2010:8). Local cuisine and eating establishments provide the opportunity for tourists to experience a community's 'invisible heritage' (Horng & Tsai, 2012; Sims, 2009; Everett & Aitchison, 2008). Food experiences help to create a sense of regional uniqueness (Gössling & Hall, 2013; OECD, 2012; Hjalager & Richards, 2002). Globally, culinary tourism has become an indispensable element in sustaining tourism in certain host communities, developed countries such as the UK and Sweden (Hall & Gössling, 2013). Local cuisine enhances the visitor experience (Hall et al., 2003; Henderson, 2009; Sharples, 2003). Not surprisingly, it has assumed a prominent role in tourist decision-making and expectations, tourism product development and destination marketing strategies (Boyne et al., 2002; Jones & Jenkins, 2002; Richards, 2002). A local food identity presenting high-quality and distinctive food products and a variety of food experiences is essential for effective branding of a region (OECD 2012). In recent times, local food and regional cuisine have become almost indispensable elements in the tourism industry. This stimulates agricultural activity and economic viability, thereby promoting local pride and local livelihoods (Du Rand, 2006).

Culinary tourism is not limited to urban regions and five-star restaurants (Boniface, 2003), but can include a wide range of rural farms, farm stalls, fruit-picking sites, cheese manufacturers, honey producers, processors of foods such as preserves and confectionery, cafes, tea gardens and bars as potential sites. The importance in these offerings is that establishments are locally owned or managed, and that products are processed in an authentic way (Hall et al., 2005). Food is often linked to other activities such as food and drink festivals, cooking classes and farm-to-table restaurants (Skift, 2015). Food creates multiple linkages to other tourism offerings: "Food need not be the only or even the primary activity on a trip for it to be characterised as culinary tourism. Rather, culinary tourism concerns the self-aware and conscious interest in experiencing a destination through its foods. Culinary tourism ... refers to the experience that regionally produced food and drink can provide when they are used to tell a story or to convey some aspect of the culture of the region being visited. Culinary tourism implies transference of knowledge or information about the people, culture, traditions and identity of the place visited" (Ignatov & Smith, 2006:238).

Successful development of cuisine as a niche tourism strategy has taken place in countries as diverse as Azerbaijan, Brazil, Egypt, Korea, New Zealand, the USA, Canada and Europe (Skift 2105; WTO, 2012; OECD, 2012). These initiatives are typically based on a synergy of food, culture and creativity: "The important linkages between novelty, authenticity and locality in food experiences mean that small-scale food production is not an artefact of the past; it represents a route to the future" OECD (2012). The Nordic countries have used

innovation in promoting new food experiences, utilising local produce in rural high quality restaurants, thereby developing local food networks and distribution systems supported by stakeholders along the value chain (OECD, 2012). Italy is synonymous with culinary tourism, and local entrepreneurs have extended their efforts by creating the Slow Food Movement where local food producers have developed authentic and sustainable food production.

On a larger scale, regional cuisine forms the basis of culinary tourism development (Gössling & Hall, 2013). Spain, for example, has produced a gastronomy guide (Turismo de Granada, 2011), with a map which enables travellers to plan and appreciate their culinary experiences. Not surprisingly, Spain has become a leading gastronomic destination with regional cuisine diversity and development of high-quality food experiences (OECD, 2012).

Culinary Mapping

Culinary mapping can be used as a tool by the local inhabitants and tour operators to market and showcase products, places and people (Ecovue, 2011; Lubbe, 2003:91; Du Rand, 2014). It entails a process of collecting, recording, analysing and synthesising information in order to describe the culinary resources, networks, and patterns of usage of a specific group in a specific area (Varju, Suvak & Dombi, 2014). Such initiatives enhance the visitor experience. Culinary mapping has been used to identify and promote culinary cultures in areas as diverse as Spain, Thailand, Peru, Japan, Malaysia and Korea (Zhang, 2015). In the USA, the Appalachian Regional Commission has devised the *Bon Appetit! Bon Appalachia!* campaign to sustain regional economic development. The Appalachian map provides a guide to the Region's diversity and abundance of local food destinations that would be of interest to tourists (ARC 2013). On an interactive food map, eateries and restaurants can also be combined with other attractions and activities, thereby stimulating local tourism holistically. Cultural mapping can be combined with culinary mapping (Lubbe, 2003:91), as has been done by municipalities in Ontario (Ecovue, 2011).

Culinary mapping is a systematic approach to identifying and recording culinary resources (using Geographic Information Systems) to support a more rigorous evidence-based approach to planning culinary tourism. The authors have developed a culinary mapping tool, called FOODPAT (Du Rand, 2006). FOODPAT, is a GIS-based resource inventory, specifically focussing on food tourism data (including food products, food and wine attractions, and events and facilities). This is then integrated with culinary heritage and culture (cuisine) and other tourism infrastructure, attractions and routes.

Different regions provide culinary distinctiveness, such as Franschoek in the Western Cape where wine and food have become a major destination attraction (Du Rand, 2006). Tourism in desert and semi-arid areas provide a variety of attractions to tourists and is receiving more attention over the last decade. Deserts are being featured as the new tourist destinations offered in packages. This has resulted in a contribution to socioeconomic development in ecologically fragile desert environments. In Iran, for example, local food is regarded as a key tourism resource (Mahdi et al., 2010). Desert foods and cuisine can, if properly managed as part of a larger tourism package, contribute to regional development in remote and arid areas (UNEP, 2006).

Culinary mapping entails a process of collecting, recording, analysing and synthesising information in order to describe the culinary resources, networks, links and patterns of usage of travellers (Ecovue, 2011; Du Rand, 2014). A culinary route or itinerary can then be constructed for food tourism as a niche attraction in a region. Culinary assets are categorised to highlight key local cuisine styles, and to facilitate comparison with other regions and tourism destinations. A culinary map is a *living* map and sets the framework for

further additions and revisions over time. Typically, four main categories of a region's culinary assets can be identified, viz Geography, Food, Culture and Tourism:

Figure 1: Culinary Resource Framework
Source: Authors' compilation



The framework as presented in Figure 1 involves two dimensions of culinary mapping:

- **Resource mapping** – identifying and recording tangible culinary resources making use of Geographic Information Systems (GIS) tools. The mapping of the tangible assets is a systematic approach to classifying a region's or a destination's culinary resources in order to describe and visualise them. To visualise and map the culinary information, locational information is matched to each asset.
- **Regional culinary identity mapping** – exploring the five factors that need to be present and that a local food identity typically requires (Sackett & Haynes, 2012): The characteristics of the land (geography); the food culture of the indigenous people; the food culture of the first settlers; foods and cooking techniques brought by later immigrants; and lastly, economic viability and providing evidence of a regional cuisine.

The knowledge obtained from the culinary mapping has various benefits: It provides the empirical data necessary for a region or destination to make better informed planning and policy decisions; it becomes a tool for regional development and tourism; and it has the potential to engage the community of a region in promoting the culinary resources and experiences.

The database is uploaded to a Geographic information System (GIS) platform which allows the mapping and searching and selecting for specific assets. The information for this project was uploaded to the culinary database called FOODPAT (developed by Du Rand 2006). This GIS-based resource inventory focuses on food tourism data (food products; food and wine attractions; and events and facilities) and integrating it with culture (culinary heritage; cuisine) and tourism (tourism infrastructure and attractions; tourism routes). FOODPAT draws on key sources, including the tourism magazine *Explore* (www.exploreonline.co.za), material collected at the annual Indaba Tourism Expo, the VEZA tourism information portal (accessed at www.southafrica.net), and available websites of tourism regions within South

Africa. This map can then show what is available at a specific destination, which enables us to determine the regional culinary identity (Du Rand, 2006). What is important to note was that FOODPAT reflects the information from a *tourism* attraction perspective and does not purport to include all available information regarding the processing and distribution of food.

In the FOODPAT data-base, food attractions include places of food interest for tourists, such as factories, wine estates, breweries, food stores, farm stalls, restaurants and culinary heritage. Food events included activities based on the existing resources and food attractions such as wine routes, cheese festivals, and meat festivals. Culinary heritage was collated by a review of heritage and historical books, recipe books and information on local websites such as Karoospace and the websites of the Karoo towns.

The Greater Karoo Region in South Africa*

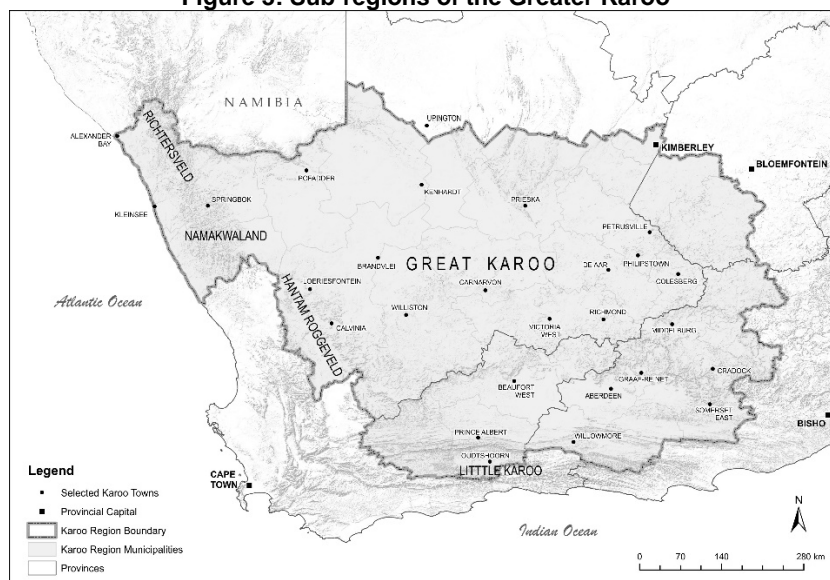
The Great Karoo Region (Fig. 2), is a vast arid and semi-arid region that covers an area of 409 862 km² (roughly 34% of the surface area of South Africa and a little larger than Germany) and home to 1.16 million people. The area is located in the southwest quadrant of the country and includes the Nama Karoo and Succulent Karoo Biomes (SANBI, 2015).



Fig. 2: The Greater Karoo Region.
Source: Authors' compilation.

The Karoo encompasses sub-regions more popularly known as Namaqualand, Bushmanland, the Hantam Roggeveld, the Great and Little Karoo and Richtersveld (Fig.2).

Figure 3: Sub-regions of the Greater Karoo

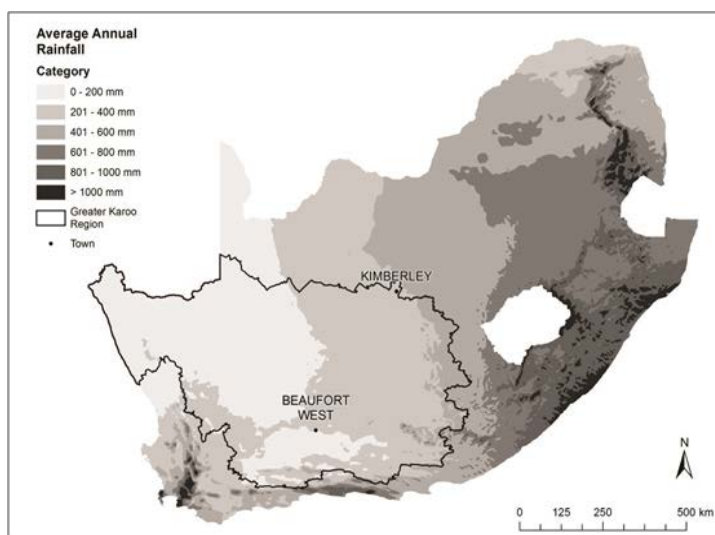


Source: Authors' compilation

*The Greater Karoo Region refers to the demarcated area in Figures 2 and 3. In this paper, we will simply refer to this area as “the Karoo”.

The Karoo is a semi-arid desert area, with very little surface water because rainfall is low (see rainfall map, Figure 4). In the map provided below, the boundaries of the Karoo are superimposed on the rainfall patterns in South Africa:

Figure 4: Map of average rainfall in South Africa
Source:ENPAT, 2011

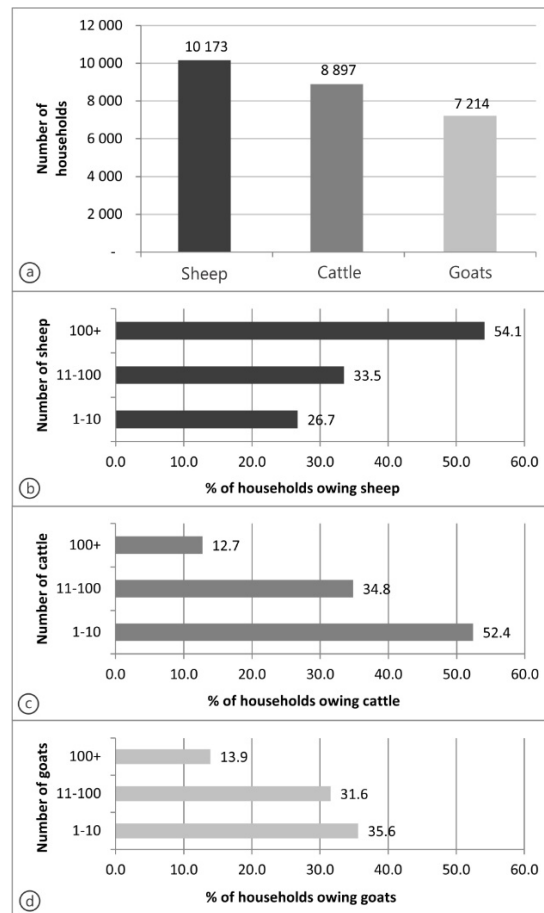


The majority of towns and farms are dependent on groundwater or mountain rainfall run-off (as in Prince Albert and Nieu-Bethesda). The reliance on ground water provides the characteristic vista of the Karoo – large empty expanses dotted with wind pumps. It is surprisingly a highly productive arid area, claiming botanical diversity, as it has mineral-rich soils and over 6 000 species of plants, half of which are found nowhere else (SANBI, 2016). This helps to create the wide range of the food products of the area. Approximately one million people live on farms within the Karoo's boundaries (StatsSA, 2013).

There are about 100 towns and settlements in the area. Some towns are located near to main highways and are easily accessible to travellers; others are more remotely located and therefore have specialised in agriculture or various forms of tourism. Small livestock farming is the region's main industry, focusing mainly on mutton and lamb, goats, cattle and game.

The graphs in Figure 5 portray the agricultural households in the Karoo (all 4 provinces) involved in livestock production. The data reflects the number of households owning livestock (sheep, cattle and goats) portraying both subsistence (1-10) and economic active largescale farming (10-100 and 100+) number of animals. The contrast between the percentage of households owning specifically sheep and cattle is important to note as more than 50% of all households own 1-10 cattle (Fig. 5 c) and in contrast 54% of households own more than 100 sheep reflecting large-scale farming (Fig. 5 b). The livestock production reflects the economic viability of the region, sheep farming but simultaneously also reflects the regional presence of livestock production and subsistence farming in all four provinces.

Figure 5: Karoo households involved in livestock production
(Source: Statistics South Africa (a); Statistics South Africa (b), 2013)



Various other types of agricultural produce, such as crops and fruit, form part of the irrigation agriculture along the various rivers within the region and include Lucerne (for livestock feed), fruit and nut trees, grapes and wheat. The arid environment provides an interesting but challenging environment for food production. Culinary tourism becomes realistic in regions with a high cultural value. The Karoo complies with this characterization, as cultural traditions have been passed down through generations, and the climate and topography have allowed the propagation and cultivation of local produce shaping the very specific cuisine of the region.

The Karoo region straddles four provinces, which has hampered an integrated tourism marketing and development strategy. This remote Karoo region is generally underdeveloped, particularly lacking in manufacturing. The economy is dependent on extensive livestock farming, particularly sheep and goats, but also cattle in the more grassy Eastern Cape Karoo. At the same time, many of the Karoo towns have shown some developmental potential, in terms of tourism and crafts. The Karoo is a significant ecological and cultural region, with growing tourism appeal and a significant increase in hospitality enterprises (Atkinson, 2016). The strongest business sector in the Karoo is tourism, as it encompasses the largest proportion of enterprises. In most towns and their surrounding areas, the number of tourist enterprises is growing faster than total enterprise growth (Toerien, Du Rand, Gelderblom & Saayman, 2016). By 2015, the tourism sector was the most numerous business sector in the Karoo, comprising roughly 22% out of a total of 3737 enterprises. Tourism is, therefore, a major source of income in the Karoo. Nevertheless, the spread of tourism in the Karoo remains unequal: 'In South Africa little has been done to 'package' and market the many small towns in the rural hinterland. It has always been up to

the private sector to develop these products, and due to the difference in economic skills throughout the country there has been a divergence between those towns that 'got it right' and those 'where nothing happens'... towns with fewer entrepreneurial resources, are being left behind' (Atkinson 2009: 157).

The Karoo is traversed by several tourism routes e.g. the N12 Treasure Route, the N12 Battlefields Route, the Scenic Route 62 which runs through the Little Karoo and the Friendly N6 Route. The Karoo National Park, Mountain Zebra National Park and Camdeboo National Park stimulate tourism on an ongoing basis (SANParks, 2015a, 2015b). In addition, a variety of niche tourism offerings have developed over the last few years, stimulating new activities and attractions in the Karoo (Saayman et al. 2009; Saayman & Saayman, 2010). The rich historic heritage of the Karoo and the rise of agri-tourism are key drivers of modern tourism in the Karoo, with game farming and working livestock farms becoming notable attractions. The tourism resources of the Karoo include geology, palaeontology, archaeology, architecture, agricultural attractions, astronomy, historical interests, and extreme adventure (Maguire 2009). The remoteness of this arid area has enjoyed a growing popular appeal (Ingle, 2010). The development of the Karoo as a tourism destination over the last two decades is sufficiently supported in a variety of popular magazines and books, and the number of accommodation establishments has grown significantly (Atkinson 2016). The rebranding of the Karoo as a desirable tourist destination is evident in the growth of small enterprises in the region, which include the provision of culinary experiences (Toerien, 2015).

A good example of local tourism energy is the small Karoo town of Sutherland (population roughly 3000) which lies 110km from the Cape Town-Johannesburg national (N1) road and has a picturesque mountainous landscape. Due to its altitude, climate, remoteness and clear skies, the South African Large Telescope or SALT (the largest in the Southern Hemisphere) was built here, and this imposing site can be visited at specific times. Sutherland now also boasts many accommodation facilities, with stargazing evenings, hiking trails, and mountain biking, as well as distinctive Karoo food.

The Karoo region is also becoming more conscious of itself as a distinctive region, as is reflected in the multi-faceted website www.karoospace.co.za. The Karoo Development Foundation has organised several Karoo-based development conferences, including two popular "Karoo Parliament" events, in 2012 and 2013. The KDF has registered the "Karoo Lamb Brand" on behalf of the people and producers of the Karoo, and this has steadily improved the marketability and prices of this notable Karoo product.

The Karoo as a niche desert culinary attraction

Desert tourism has become a more familiar form of niche tourism over the last couple of years in destinations such as Israel, Namibia, Nepal, China, Arizona, Australia and Dubai (Atkinson, 2016). Tourists undertake a variety of activities from visiting archaeological sites to the more extreme outdoor activities such as hiking and rock climbing, whilst the heritage and culture of the desert communities is simultaneously becoming an important tourist asset (Atkinson, 2016).

Desert areas have drawn on culinary tourism in other parts of the world, and the Karoo is no exception. Its culinary tradition includes the ancient food culture of the San and Khoi peoples (sometimes referred to as the "Bushmen" and "Hottentots"), who used indigenous ingredients and now offer these culinary delicacies to tourists (South African Tourism 2016a). In addition to the original indigenous inhabitants, the Karoo has seen an influx of

Dutch- and English-speakers since the mid-18th Century. More recent arrivals include people descended from Cape Malay communities, Griqua communities, and Xhosa-speakers.

The earliest inhabitants, the San (hunter gatherers), lived on wild plants, roots, grass seeds, locusts, river fish, reptiles, ant larvae ("*Bushman rice*"), ostrich, ostrich eggs, and antelope (Coetzee, 2015:33; Essop, 2012; Green, 1955) They followed a nomadic lifestyle:

- During the 6th century, the Khoi moved from Botswana to Cape Town, while some groups remained in the Karoo. The Khoi sometimes mixed with the San (Coetzee, 2015:33; Pretorius, 2014:33; Coetzee & Miro, 2009:19).
- African migrants, mostly Xhosa people from the south, moved into the area, bringing with them their distinctive Nguni cattle (Pretorius, 2014:38)
- European settlers (from the 18th century) exhibited a pastoral lifestyle. The early settlers (mostly Dutch/Afrikaans and English) added porcupines, hares, tortoises, and *aardvark* to their diets (Coetzee, 2015:35; Essop, 2012).
- People of various other cultures were involved in Karoo farming; these included Malays, Indians, Greeks, Portuguese and Jews (Essop, 2012:19).
- By the 19th century, the inhabitants of the Karoo were mainly sheep/stock farmers, consisting of interspersed white, black and coloured communities (Pretorius, 2014:84).

The interaction between indigenous groups and first settlers led to a blending of cuisines and a new hybrid cooking style, reflected in many recent recipe books which describe the food and culinary traditions of the region (such as Essop 2012; Le Roux and Palmer n.d.; Minnaar et al 2007; Hall 2003; and Wright 2013). These books are often embellished with local stories, family histories, and evocative photographs that celebrate an authentic rural ambience. Many local communities compile their own recipe books for sale:

Figure 6: A selection of recent Karoo cuisine books
Source: The authors



Ingredients and cooking methods introduced by immigrants are often more exciting and complex than those of the existing regional cuisine (Sackett & Haynes, 2012). The culinary impact of immigrants often changes the destiny of a region's cuisine. In the case of the

Karoo, early immigrant groups created hybrid, ethnic-Karoo micro-cuisines. Lawrence Green provides a fascinating and comprehensive overview of Karoo Food in his book *Karoo* (1955), being one of the first authors to describe a distinctive Karoo food identity.

The most prominent authentic Karoo regional cuisine are the dishes using traditional and local produce. Lamb is often the main ingredient such as lamb roast, lamb pies, and lamb bredie, combined with other local produce such as venison, pomegranates, quinces, prickly pears and figs. Other traditional favourite South African foods are also very popular and have been absorbed into the culinary heritage and cuisine of the region: Rusks, mutton rib, *sosaties* (kebabs), *roosterkoek* (griddle-baked bread), milk tarts, offal, lamb's tails, sheep's heads, mutton crackling (*kaiings*), sheep's livers and even porcupine are also offered in the Karoo. Easier access to amenities and ingredients has brought about a modern influence, although the food is still very regional and the basics remain the same.

The economic viability of a regional cuisine requires revenues for the local population, earned from the production of goods and services. According to Sackett and Haynes, (2012), this enables the population to move from subsistence conditions to a more affluent lifestyle. Where the higher income groups have more disposable income to spend on dining, cooks and chefs can prepare dishes that are more complex and sophisticated. When chefs are paid higher salaries and create culinary masterpieces, and diners are better educated, they will support restaurants that are more expensive. There is sufficient evidence of economic viability in the Karoo, as its local cuisine is celebrated in books, festivals, recipes and restaurants and Karoo chefs are creating culinary masterpieces. Examples are found on the Karoo space website <http://karoospace.co.za/category/karoo-food/>. These culinary resources include the Langbaken-cheesemakers of the Upper Karoo, the Cradock Karoo Festival (now in its third year), food safaris, food feasts in the Karoo, the certified lamb of the Karoo, and the old stalwart dishes such as lamb *bredie* (stew), *skilpadjies* (lamb's liver rubbed in fat), and sweet desserts such as melktert (milk tart) and koeksisters.

The combination of food and tourism creates the potential of a culinary route through the Karoo, as well as an opportunity for local economic development. The regional cuisine of the Karoo also has the potential of being valorised and promoted, thereby making it exclusive to the region and showcasing local produce and food culture significant to the region. The Karoo has the capacity to exhibit regional gastronomic diversity and develop high-quality food experiences, based on its a culinary heritage and regional cuisine. The tourism offerings in the Karoo are authentic, within a small-town ambience in places such as Calitzdorp, Graaff-Reinet, Nieu-Bethesda and Prince Albert. In one study of the Karoo, the most frequently cited activity was eating out (28%) and the travellers were also particularly interested in seeking the Karoo out for authentic and unique experiences which included the cuisine (Atkinson, 2016).

The Karoo region provides opportunities to develop a "Karoo Food" brand, thereby creating a local food identity with specific products and services such as "Karoo Lamb" (Atkinson, 2015; Kirsten, 2012). The "Karoo Lamb" brand has been officially recognized with certified designations of origin, providing a mark of quality and geographical recognition. This product has received international acclaim. Karoo Lamb, with its distinctive herb flavour, is now a certified product (www.karoomeatoforigin.com). It now compares with other international products with geographic indications, such as Parma ham and Parmesan cheese. It is sold all over the country at specific butcheries and is exported abroad. This contributes greatly to advertising the Karoo brand and lays the groundwork for a more extensive *Karoo Food* brand.

New Karoo cuisine networks and websites have been established, including www.foodfromthekaroo.com and www.tasteofthekaroo.co.za. These websites provide

attractive images of the *locale* of the Karoo, the sense of place which is captured in nature, farm life, whimsical artefacts and colourful people. In the Karoo, culinary tourism can be combined with existing tourist activities such as adventure tourism. These additional activities, which can include culinary tourism in the marketing and packaging, will contribute to the regional development of the Karoo region, with a unique competitive edge (Horng & Tsai 2012; Green & Dougherty 2008).

A common approach in the four Karoo provinces would maximise the strengths of the region, enabling it to share key strategic assets and a common tourism brand. This could be achieved by establishing a regional food system to promote supply chains, joint marketing, and building a shared profile of the region and its produce. Agriculture needs to be linked to tourism to create and provide products and experiences necessary for the industry's growth and development. Linkages such as these will assist in providing access to, and efficient distribution of, fresh seasonal and value added goods. The entire supply chain has an impact on the brand; consequently, all the links in the supply chain must understand that they depend on one another not just regarding supply, but also regarding brand creation – which in this case would be the *Karoo Food* as a marketable tourism product and part of the regional strategy.

Awareness of their product differentiation, quality of their products and knowledge of changing tourist markets is required. Establishing a competitive advantage can lure potential tourists both local and international to the region (Hall et al., 2005:4). Community participation and the formation of partnerships are the building blocks to gain the best local advantage and become competitive (Goodwin, 2003; Oliver & Jenkins, 2003). The onus lies with the entrepreneurs in the Karoo region to promote their competitive advantage. At the same time, there is also an important role for Government development agencies to encourage and assist such private-sector activities. Destination Marketing Offices and tourism information centres can help to keep data updated and accurate while District Councils and Municipalities can use the existing tourism database to enhance collaboration to counteract fragmentation in the Karoo Region.

The next section illustrates the usefulness of culinary mapping for a shared Karoo cuisine tourism initiative.

The Karoo Culinary Map

The main priority of this study was to capture the scope of culinary resources existing in the Karoo region, although at this stage, it is not a complete or exhaustive list. It provides a solid baseline of culinary information and sets the framework for further additions and revisions to the inventory over time.

The Karoo development Foundation has already compiled a database of the culinary tourism products throughout the Karoo and reflecting all four provinces.

The task of compiling a database of culinary assets began by accumulating existing sources of information, namely the use of the Karoo Development Foundation database, FOODPAT and other existing tourism information. This database contained an extensive listing of the towns in the Karoo, listed by municipal district, physical address, GPS coordinates, websites, events, main products, main activities, food attractions, food events and additional useful notes. Additional data sources included a broad range of web and print sources, such as community listings, business directories, tourism listings, print media (such as the lifestyle magazine *Country Life*), and organizational websites. Culinary heritage was sourced by a review of heritage and historical books, recipe books and information on local websites such as *Karoospace* and the websites of the Karoo towns.

The analysis of the data comprised defining and determining the scope of the assets included in the culinary map. It was based on the four main categories presented in the culinary resource framework (Geography, Food, Culture and Tourism) which reflect the region's tangible culinary assets. The characteristics of the land are paramount in defining agricultural potential and production in a region. These include the management of local soil types; the climate which determines which food plants and animals will grow in a particular area; the topography which affects the climate and the use of farm machinery; and the proximity to other regions which affects the exchange of ingredients and culinary idea (Sackett & Haynes, 2012).

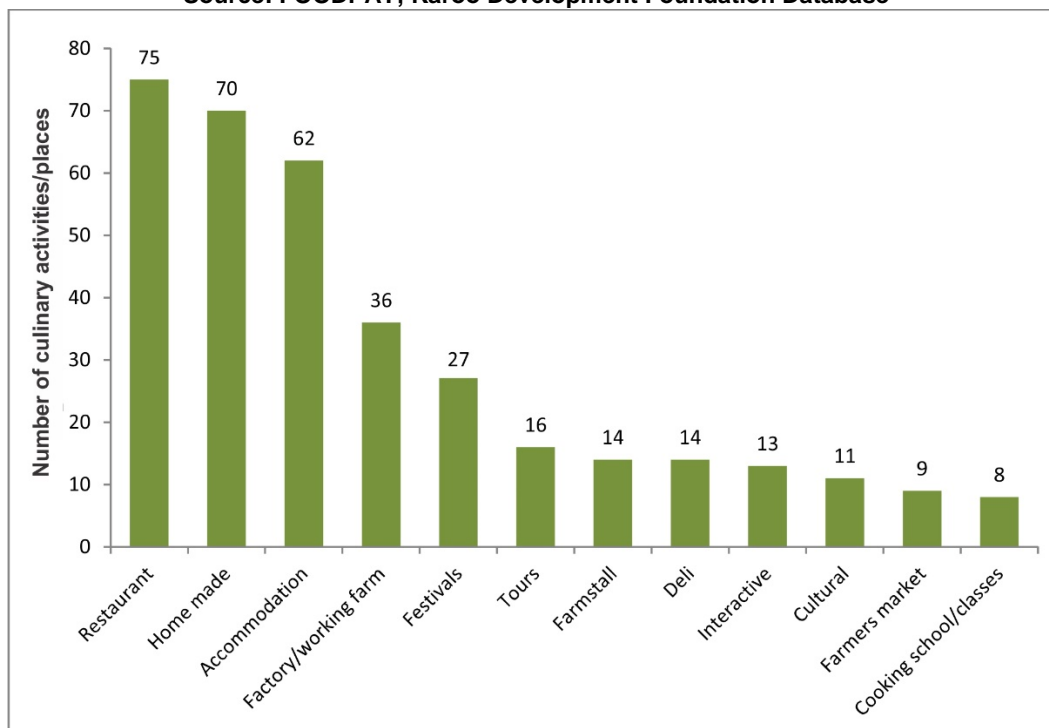
The two steps (resource mapping and regional culinary identity mapping) were then used to assess and plot the culinary resources of the Karoo.

Step 1: Resource mapping

The tangible culinary resources were identified, recorded and classified on the culinary food database by means of the resource mapping step applying GIS tools and platforms. The products and activities include categories such as cookery classes, farm stalls, homemade produce, restaurant/eating place, tours, accommodation, factory/working farms and farmers' markets. The tangible culinary resources present in the Karoo region are reflected in Figure 7.

We found a total of 354 culinary assets for the entire Karoo region. Restaurants (75) and home made goods (70) tallied the highest values, followed closely by accommodation (62). Besides working farms (36) and festivals (27) the other values are all below the value of 20, which is still representative of the culinary resource in the region. The spread of the culinary activities is illustrated in Figures 7 and 8 below.

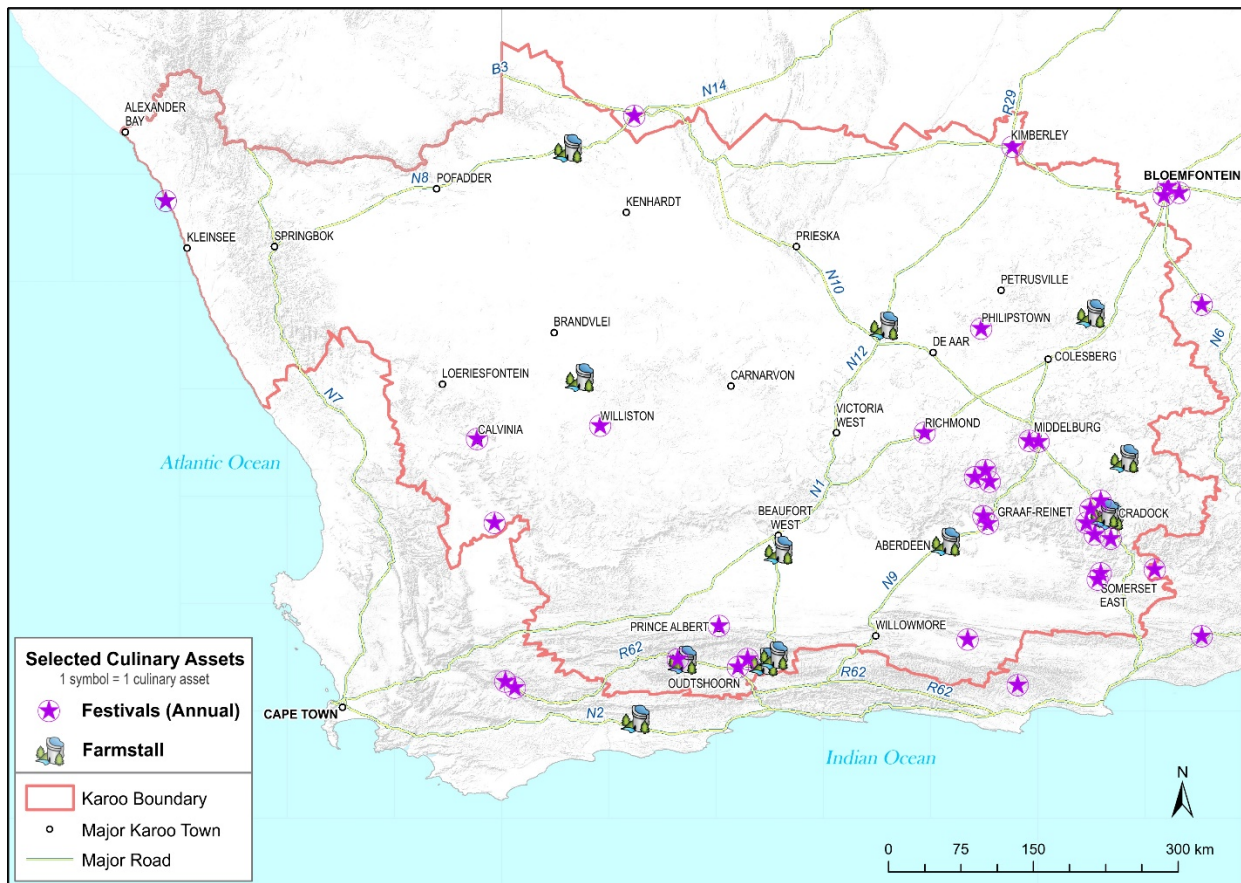
Figure 7: Type of Culinary Activities in the Karoo
Source: FOODPAT; Karoo Development Foundation Database



- In Graaff-Reinet, a renowned chef offers traditional cuisine and locally sourced produce
- Victoria West has a well-frequented deli (Kingwill's).

Specific culinary assets (such as farmers markets) can be displayed in separate maps. Figure 9 illustrates the distributions of farmstalls, which are found in 11 different locations and annual festivals in the Karoo:

Figure 9: Distribution of farm stalls and annual festivals in the Karoo
Source: FOODPAT; Karoo Development Foundation Database



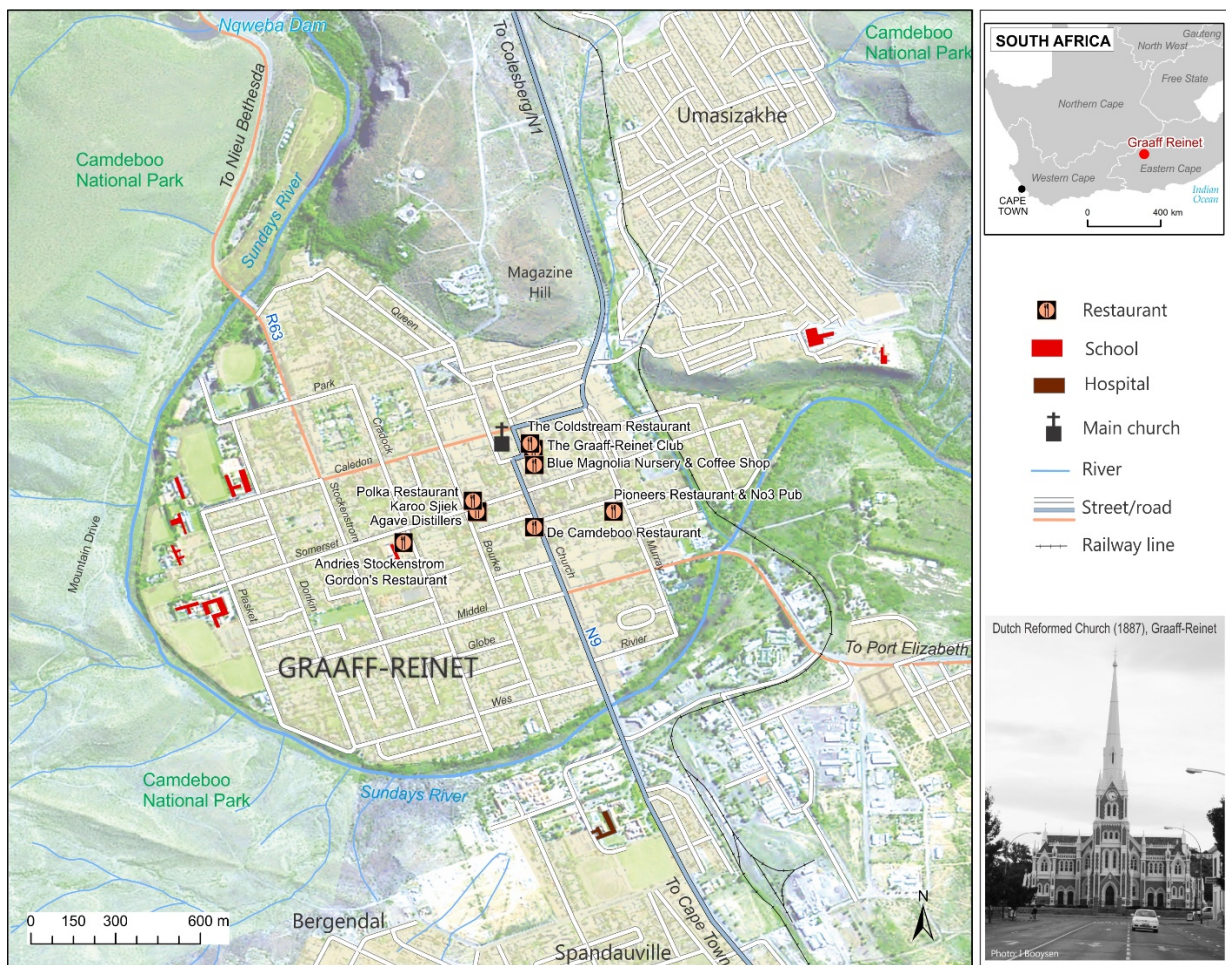
Culinary identity mapping – regional cuisine

As noted earlier, regional culinary identity mapping involves a consideration of the characteristics of the land (geography), the food culture of indigenous people and later settlers, and the economic vibrancy of the food production networks. The identity mapping process sourced data by means of a review of themes and ideas in existing literature, books, recipe books, websites and census data of the region. Information was drawn from the tourism offices in key towns of the Karoo, such as Prince Albert, Nieu-Bethesda, Beaufort West, Graaff-Reinet, and Calvinia. There are also information portals hosted by Karoo routes and networks, such as the Karoo Heartland Marketing Association, South African National Parks (SANParks), Karoo Connections Tours and Transfers, the Little Karoo Route (Route 62), the Camdeboo Route, the Sundays River Route, the Karoo Highlands Route, the Hantam Route, and the Green Kalahari Route.

Locality-based portrayal of culinary assets: The case of Camdeboo

Graaff-Reinet is a very historic town, dating from the 18th Century. Together with its outlying towns, Nieu-Bethesda and Aberdeen, it is building a reputation as a multi-dimensional heritage and tourism centre. Graaff-Reinet provides various home-made goods, cooking classes and culinary tours; it features numerous accommodation options where local dishes and produce are served; and it has more than nine restaurants serving local dishes which reflect the culinary heritage of the region. Graaff-Reinet can be regarded as a stand-alone culinary destination in its own right, as shown in Figure 10.

Figure 10: Map of Graaff-Reinet indicating the restaurants serving local foods
Source: FOODPAT; Karoo Development Foundation Database; Authors' compilation



Graaff-Reinet gains even more significance in relation to its neighbouring town of Nieu-Bethesda. Figure 11 shows an example of a culinary map of the area, with various activities interspersed with the landscape and geography of the area, culture, heritage, architecture and agricultural production. Many other attractions can be added to such a culinary map:

Figure 11: Proposed circular culinary route from Graaff-Reinet to Nieu-Bethesda

Source: FOODPAT; Karoo Development Foundation Database; Authors' compilation

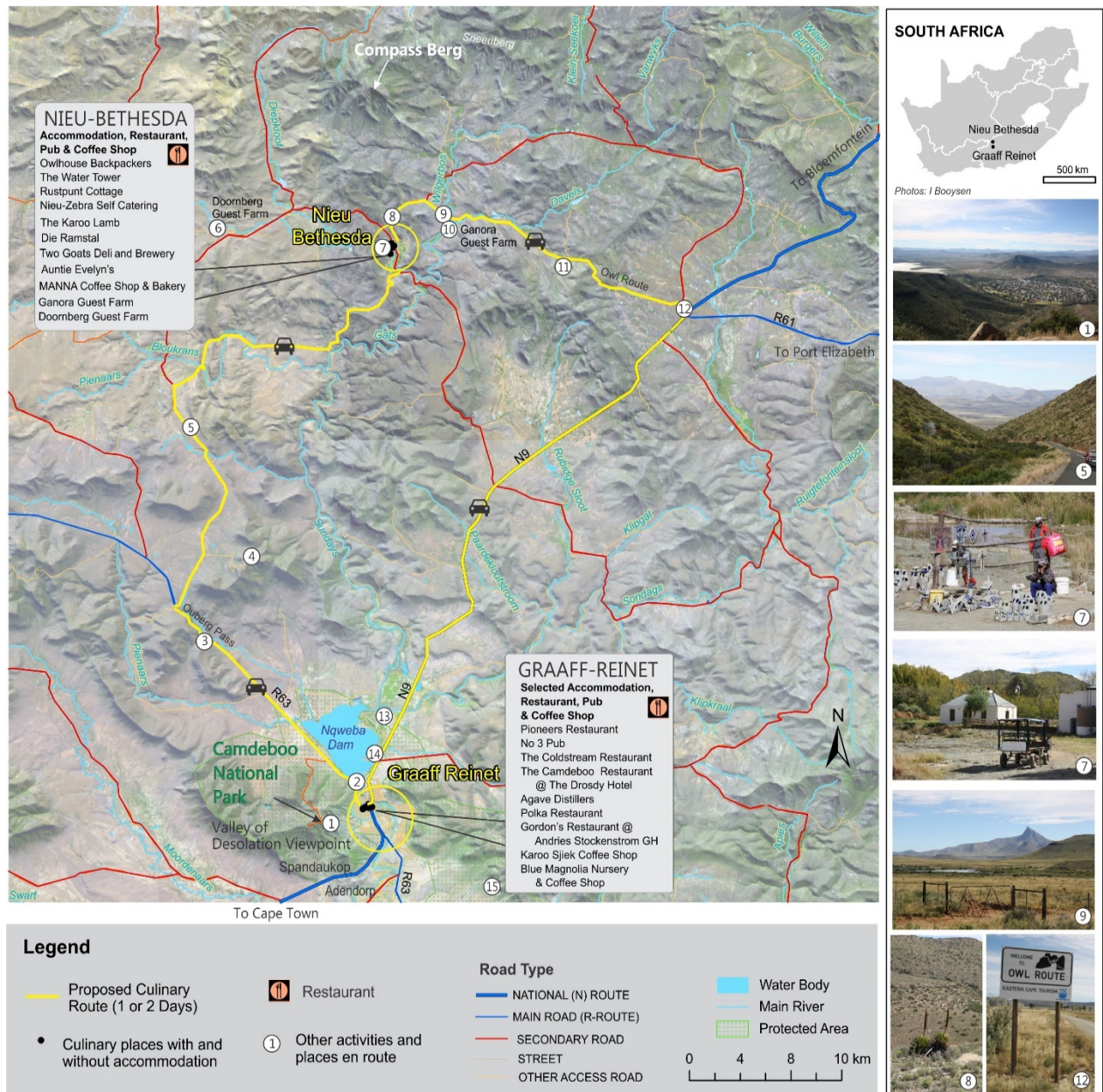


FIG 11 – Explanation of the proposed circular culinary route itinerary

- Valley of Desolation viewpoint on Graaff-Reinet and Spandaukop: Driving, walking, scenery.
- View of Nqweba Dam Wall.
- Ouberg Pass on the R63: Plaque with engineers and councillors responsible for Ouberg Pass (1945)
- 4x4 Mountain Road, providing views of Karoo landscape.
- Mountain scenery.
- Doornberg Guest Farm – working Angora goat farm.
- Nieu-Bethesda: Owl House of artist Helen Martins, now a museum; community crafts, art galleries, donkey rides, Fossil Museum, restaurants, coffee shops, bakeries, pubs, many accommodation options.
- View of Nieu-Bethesda and Aloes. Geological scenery.
- Compass Berg, the highest peak (2502 m) in the Sneeu Berg. Mountain climbing, hiking, 4x4 route.
- Ganora Guest Farm: Historic sheep farm with fossil heritage. Excursions: fossils, bushman rock art, Anglo-Boer war, Bushman folklore, medicinal plant walk. Karoo cooking courses (www.ganora.co.za).
- Spot the Blue Cranes (SA's National Bird) and Grey-crowned Cranes, in the area.
- Official Owl Route noticeboard – junction N9/R61.
- Graaff-Reinet airstrip.
- Camdeboo National Park: Tented accommodation and camping.
- Samara Private Game Reserve: 2 luxury lodges, game drives and Karoo traditional food.

Conclusion

Tourism based on regional food, drink, agricultural experiences and the rural South African Karoo way of life, offers a range of livelihood opportunities for regional communities, based on its rural landscape, lifestyle, culture and production. The challenge of the tourism industry is to promote the region's offerings, whilst ensuring that the visitors' expectations are met. and indeed exceeded where possible so that service quality excellence may prevail.

The culinary map of the Karoo will assist visitors in locating these unique offerings and contribute to ensuring consistency, authenticity and top quality of the visitor experience. It reflects 'place', enriches experiences, and can be a valuable tool to boost economic, social and community development. A well-developed culinary tourism product imparts the story of heritage, the people and the landscape of a geographic area. Culinary tourism is often labelled as a niche market, but its potential to motivate and attract travellers is always available, as all tourists need to eat (WTO, 2012). Consumers and travellers need to be educated about the regions' growers and producers.

The article illustrates the usefulness of culinary mapping as a tool for regional development in the Karoo region. Such maps can be created at regional and local scales. These tools can also be enhanced by additional research, to uncover and map other culinary assets, and display them on other regional maps in the Karoo. This will assist food producers and food consumers to become aware of each other, and create more effective tourism markets and livelihoods.

References

- Appalachian Regional Commission (ARC). (2013). Bonappetitappalachia. Map to Promote Food and Destination tourism. http://visitappalachia.com/bonappetitappalachia/wp-content/uploads/ARCFoodGuide_FINAL_May27_Web.pdf
- Atkinson, D. (2016). Is South Africa's Great Karoo region becoming a tourism destination? , *Journal of Arid Environments*, 127 (1), 199-210.
- Atkinson, D. (2015). Thinking out of the box: Promoting inter-jurisdictional collaboration in South Africa. *Africa Insight*, 45 (1), 68-85.
- Atkinson, D. (2009). The 2010 World cup and the rural hinterland: Maximising, advantage from mega-events. In Pillay, U., Tomlinson, R. & Bass, O. (eds) *Development and Dreams: The Urban Legacy of the 2010 Football World Cup*. HSRC Press, Cape Town.
- Björk, P. & Kauppinen-Räsänen, H. (2014). Culinary-gastronomic tourism - a search for local food experiences. *Nutrition and Food Science*, 44, 294.
- Björk, P. & Kauppinen-Räsänen, H. (2016). Local food: a source for destination attraction. *International Journal of Contemporary Hospitality Management*, 28, 177-194.
- Boniface, P. (2003). *Tasting tourism: Traveling for food and drink*. Hampshire: Ashgate
- Boyne, S., Williams, F., & Hall, D. (2002). On the trail of regional success: Tourism, food production and the Isle of Arran Taste Trial. In A. Hjalager, & G. Richards. *Tourism and gastronomy*, London: Routledge.

Coetzee, R. (2015). *A Feast from Nature. Food Culture of the First Humans on Planet Earth*. Penstock Publications, Hermanus.

Coetzee, R. & Miros, V. (2009). *Koekemakranka. Khoi-Khoi-Kultuurgoed en Kom-kuier-kos. Lapa uitgewers*, Pretoria.

Du Rand, G.E. (2014). *Karoo Cuisine*.
<http://www.karoorfoundation.co.za/images/Parliament%202014/tourism/Karoo%20Cuisine,%20UP.pdf>

Du Rand, G.E. (2006). FOODPAT. Unpublished. University of Pretoria.

Du Rand, G.E. (2006). *The Role of Local Food in Destination Marketing: A South African Situational Analysis*. PhD Thesis, University of Pretoria.

Ecovue, (2011). The cultural resource mapping project. Township of Cavan Monaghan Council.
<http://cavanmonaghan.net/en/thingstodo/resources/Culturalmappingfinalreport20110629.pdf>

ENPAT, (2011). *Environmental Potential Atlas for South Africa (GIS data)*. Pretoria: Department of Environmental Affairs and Tourism in conjunction with the University of Pretoria.

Essop, S. (2012). *Karoo Kitchen: Heritage Recipes and True Stories from the Heart of South Africa*. Cape Town. Quivertree publications.

Everett, S. & Aitchison, C., (2008). The role of food tourism in sustaining regional identity: A case study of Cornwall, South West England. *Journal of Sustainable Tourism*, 16 (2), 150-167.

Geldenhuys, E. (2006). *Cuisine as noodsaaklike element in volhoubare toerisme: 'n gevallestudie van die Mbila-gemeenskap in Maputaland, KwaZulu-Natal*. Pretoria: Master's Thesis, University of Pretoria.

Goodwin, H. (2003). Local community involvement in tourism around national parks: opportunities and constraints. In M. Luck & T Kirstges (eds). *Global Ecotourism Policies and Case Studies: Perspectives and Constraints*, Clevedon, UK: Channel View Publications.

Gössling, S. & Hall, C. M. (2013). Sustainable culinary systems. An introduction. In Hall C.M. & Gössling, S. (eds). *Sustainable Culinary Systems*. Routledge, London, 3-44.

Green, G.P. & Dougherty, M.L. (2008). Localizing linkages for food and tourism: Culinary tourism as a community development strategy. *Community development*, 39 (3), 148-158.

Green, L.G. (1955). *Karoo*. Howard Timmins, Cape Town.

Hall, C.M. (2006). Culinary tourism and regional development: From slow food to slow tourism. *Tourism Review International*, 9(4), 303-306.

Hall, C.M. & Gössling, S. (2013). Reimagining sustainable culinary systems: the future of culinary systems.. In Hall C.M. & Gössling, S. (eds). *Sustainable Culinary Systems*. Routledge, London, 293-304.

Hall, D.R., Kirkpatrick, I. & Mitchell, M., (2005). *Rural tourism and sustainable business*, Clevedon, UK: Channel View Publications.

Hall, C.M., Mitchell, R., & Sharples, L. (2003). Consuming places: The role of food, wine and tourism in regional development. In C. M. Hall, L. Sharples, R. Mitchell, N. Macionis, & B. Cambourne. *Food tourism around the world*. London: Butterworth & Heinemann.

Hall, L.B. (2003). *Fig Jam and Foxtrot: Tales of Life, Love and Food in the Karoo*, Struik, Cape Town.

Henderson, J.C. (2009). Food tourism reviewed. *British Food Journal*, 111(4), 317-326.

Hjalager, A. & Richards, G. (eds) (2002). *Tourism and gastronomy*. London: Routledge.

Hong, J.-S. & Tsai, Chen-Tsang (Simon). (2012). Culinary Tourism Strategic Development: An Asia-Pacific Perspective. *International Journal of Tourism Research*, 55(8), 40–55.

Ignatov, E., & Smith, S. (2006). Segmenting Canadian Culinary Tourists. *Current Issues in Tourism*, 9(3), 235-255.

Ingle, M. (2010). Making the most of 'nothing': astro-tourism, the Sublime, and the Karoo as a 'space destination'. *Transformation: Critical Perspectives on South Africa*, 74, 87-111.

Jones, A., & Jenkins, I. (2002). 'A taste of Wales – Blas Ar Gymru': Institutional malaise in promoting Welsh food tourism products. In A. Hjalager, & G. Richards. *Tourism and gastronomy*, London: Routledge.

Karoo Development Foundation, (KDF) (2013). *Karoo Tourism Strategy*. <http://www.karoorfoundation.co.za> [accessed 17 August, 2015].

Karoo Development Foundation, (KDF) (2013). Database. Unpublished.

Karoo Space. (2015). <http://karoospace.co.za/category/karoo-food> [accessed 17 August, 2015]

Karoo Space. (2015). <http://karoospace.co.za/category/beginners-karoo> .[accessed 17 August, 2015]

Kirsten, J. (2012). 'Karoo Lamb' as a geographic indication. Does it set a precedent for Karoo agriculture? <http://www.karoorfoundation.co.za/images/Presentations/Sessie5/Prof%20Johann%20Kirsten,%20Karoo%20Lamb>

Le Roux, B. & Palmer, M. (n.d.). *Marmelade en Moerkoffie: Plaaslike, Organiese en Seisoenskos uit die Kamdeboovlakte*, Quivertree Publications.

Long, L. M. (2003). *Culinary tourism*. Lexington, University Press of Kentucky.

Lubbe, B. (ed). (2003). *Tourism Management in Southern Africa*. Pearson Education, South Africa.

Maguire, J. (2009). Tourism and the Heritage assets of the Karoo outback. Presented at the Karoo Development Conference and Trade Fair, Graff-Reinet, 27 March 2009. <http://www.karoorfoundation.co.za/graaffreinet2009.html>

Mahdi, E., Toriman, M.E., & Ahmad, H. (2010). Substantial ecotourism in desert areas in Iran: Potential and issues. *Jurnal e-Bangi*, 5 (1), 38-51.

Minnaar, L., Reynolds, A. & Neethling, A. (2007). *Karoo Venison*, Sunbird Publishers, Cape Town.

OECD (Organisation for European Co-operation and development) (2012). Food and the Tourism Experience: The OECD-Korea Workshop, OECD Studies on Tourism, OECD Publishing. <http://dx.doi.org/10.1787/9789264171923-en>

Oliver, T. & Jenkins, T. (2003). Sustaining rural landscapes: the role of integrated tourism. *Landscape Research*, 28 (3), 293-307.

Ontario Culinary Tourism Alliance (OCTA). (2010). Ontario's Four year culinary tourism strategy and action plan, 2011-2015. [accessed 17August, 2015].

Palmer, E. (2011). *Return to Camdeboo*. Penguin Books, South Africa.

Pine, J. and Gilmore, J. (1999). *The Experience Economy*, Harvard Business School Press, Boston, 1999.

Pretorius, F. (ed). (2014). *A History of South Africa. From The Distant Past to the Present Day*. Protea Book house, Pretoria.

Richards, G. (2002). Gastronomy: An essential ingredient in tourism production and consumption. In A. Hjalager, & G. Richards. *Tourism and gastronomy* London: Routledge 11-16.

Richards, G. (2012). An overview of food and tourism trends and policies. In OECD Publishing. Food and the Tourism Experience: The OECD-Korea Workshop, OECD Studies on Tourism, OECD Publishing. <http://dx.doi.org/10.1787/9789264171923-en>

Saayman, M. & Saayman, A. (2010). Regional development and national parks in South Africa: 21 Lessons learned. *Tourism Economics*, 16(4), 1037-1064.

Saayman, M., Saayman, A. & Ferreira, M. (2009). The socio-economic impact of the Karoo National Park. *Koedoe*, 51(1),1-10.

Sackett, L. & Haynes, D. (2012). *American Regional Cuisines: Food Culture and Cooking*. New Jersey, Pearson.

Sharples, L, (2003). The world of cookery-school holidays. In C. M. Hall, L. Sharples, R. Mitchell, N. Macionis, & B. Cambourne. *Food tourism around the world* . London: Butterworth & Heinemann, 206.

Sims, R., (2009). Food, place and authenticity: local food and the sustainable tourism experience. *Journal of Sustainable Tourism*, 17(3), 321–336.

Skift Report. (2015). *The Rise of Food tourism*. Ontario Culinary tourism alliance and Skift. <https://trends.skift.com/trend/free-report-the-rise-of-food-tourism/>.

South African National Parks (SANParks). (2015a). Karoo National Park: Activities and facilities. www.sanparks.co.za/parks/karoo/tourism/activities.php

South African National Parks (SANParks). (2015b). Mountain Zebra National Park: Activities and 11 facilities. www.sanparks.co.za/parks/mountain_zebra/tourism/activities.php

South African National Biodiversity Institute (SANBI). (2015). Vegmap 2012. www.sanbi.org/news/vegmap-2012-beta-app-version-released-bjissanbiorg

South African Tourism. (2016a). Northern Cape food terroir. <http://www.southafrica.net/za/en/articles/entry/article-southafrica.net-northern-cape-food-terroir>

Statistics South Africa (StatsSA). (2013a). *Census 2011*. Community profiles database from Supercross, Statistics South Africa, Pretoria. www.statssa.gov.za.

Statistics South Africa (StatsSA). (2013b). *Census 2011 Agricultural households / Statistics*. Report no. 03-11-01 (2011). South Africa Statistics South Africa, Pretoria. www.statssa.gov.za

Toerien, D.F. (2015). New utilization/conservation dilemmas in the Karoo, South Africa: Potential economic, demographic and entrepreneurial consequences. In G. Ferguson (Ed.) *Arid and Semi-arid Environments: Bio-geodiversity, Impacts and Environmental Challenges*. New York: Nova Science Publishers.

Toerien, D.F., du Rand, G.E., Gelderblom, C., & Saayman, M. (2016). *Impact on Tourism in the Karoo*. Unpublished working document for the Strategic Environmental Assessment on Shale Gas Mining, Council for Scientific and Industrial Research, 2016.

Turismo De Granada. (2011). Guía Gastronomía idiomas.indd 3. http://www.turgranada.es/wp-content/blogs.dir/2/files_mf/1394179303gastronomia.pdf

United Nations Environmental Programme (UNEP). (2006). *Tourism and Deserts: A Practical Guide to Managing the Social and Environmental Impacts in the Desert Recreational Sector*, Paris, ISBN 92-807-2726-5.

Varju, V., Suvak, A., & Dombi, P. (2014). Geographic information systems in the service of alternative tourism – Methods with landscape evaluation and target group preference weighting. *International Journal of Tourism Research*. 16 (5), 496-512.

World Tourism Organisation (WTO). (2012). *Global Report on Food Tourism*. United Nations, Madrid. UNTWO.

World Tourism Organisation (WTO) (2015). *Tourism Highlights*. United Nations, 25 Madrid. UNTWO.

World Travel and Tourism Council (WTTC), (2015). *Economic Impact: South Africa*. <https://www.wttc.org/-/media/files/reports/economic%20impact%20research/regional%202015/world2015.pdf>

right, G. (2013). *From Veld to Fork: Slow Food from the heart of the Karoo*. Struik publishers, South Africa.

Yeoman, I. & McMahon-Beatte, U. (2016). The future of food tourism. *Journal of Tourism Futures*, 2(1), 95-98.

Zhang, J. (2015). The Foods of the Worlds: Mapping and Comparing Contemporary Gastrodiplomacy Campaigns. *International Journal of Communication*, 9 (2015), 568–591.