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Despite a highly visible presence, policy-maker knowledge of the drivers and participants in the informal economy of wild-harvested medicinal plants in Cape Town remains limited. To illuminate the workings of this local cultural business activity, the researchers adopted value chain analysis (VCA) for dissecting harvesting, trading and consumer demand in the trade. The study included qualitative, open-ended interviews with 58 traditional healers and a quantitative consumer study of 235 township households. Cape Town's traditional healers are numerous and potentially more uniquely culturally diverse than elsewhere, serving various community health needs. Healer groups enhance their healing reputation by utilising wild-sourced medicines – much of which is harvested locally. Their services remain culturally important and utilised by at least 50% of all consumer respondents. The VCA revealed a universal healer and consumer requirement for wild medicine stocks which has considerable implications for policy-making, protected area management and traditional medicine-oriented conservation projects.

Keywords: informal economy; traditional medicine; natural resources; value chains

Introduction

Millions of South African households use wild-harvested biological material for medicinal and cultural reasons (Mander 1998). Whilst the overall size of South Africa's traditional medicines trade has been investigated in various provinces and urban centres and is conceptually understood (Mander 1998, Dold and Cocks 2002, Botha *et al.* 2004, Williams *et al.* 2007), the details of this predominantly informal industry remain largely unrecorded in national economic statistics. The size of this "hidden" economy (Cunningham 1989) is thought to be considerable, estimated by Mander (1998) to be US$50 million per year. These authors record how this cultural and business activity relies on generally wild-harvested materials collected from natural habitats, which are transported, processed

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and traded as medicines by a diversity of traditional healer types. Prominent amongst these are related *amagqirha* – who operate as supernatural mediums with ancestral spirits to diagnose the unexplainable – and *amaxwhele* (herbalists) who possess extensive knowledge of curative herbs used for preventive treatments and rituals (Truter 2007, Walwyn and Maitshotlo 2010), and Rastafarian groups who specialise in herbalism (Aston Philander 2011).

The city of Cape Town lacks obvious, centralised traditional medicine trading venues as described by authors such as Mander (1998) in Durban and Williams *et al*. (2007) in Johannesburg. Despite some research efforts into the local medicinal trade (Loundou 2008, Nzue 2009), the function of traditional medicine markets in Cape Town remains largely unknown. Yet from a resource use perspective, recent research by Petersen *et al*. (2012) found that 129 locally occurring plant and animal species are wild-harvested for traditional medicinal purposes (including organisms of international conservation concern), much of which potentially serves local markets. Local conservation officials reflect that such harvests are generally clandestine, illegal and destructive (P. Glanville, personal communication, November 2011). A reflection of this common illegality is how this important cultural business remains largely cash-driven through local informal street and residential markets (Petersen *et al*. 2014). A consequence of this informality is that consumers potentially are buying traditional medicines of unknown origin and efficacy (Jäger and van Staden 2000).

Scholars (such as Jäger and van Staden 2000) have suggested that potential domestication and cultivation of culturally important medicinal plants may be useful in bringing efficiencies to the trade, to enhance product quality and uniformity and to reduce potential ecological impacts of harvests. However, the present lack of knowledge of the functioning and drivers of the sector in Cape Town presents a challenge for developing any sector related interventions.

In this research, the investigators set out to unravel the commodity chains that supply the local informal economy of traditional medicines within selected residential settlements of Cape Town, and through a process of value chain analysis (VCA) to understand the consumer drivers of this market.

Traditional healers

The varied cultural practice of traditional healing is generally a holistic approach to patient well-being, considering both spiritual and physical welfare (Dold and Cocks 2012). Traditional healer types such as the *amaxwhele* and Rastafarian styled *bush doctors* provide specialist knowledge herbalist services and treatments (Truter 2007) that could be considered familiar to Western practice – treating symptomatic illnesses such as gastrointestinal and urogenital complaints, skin ailments and cardiovascular diseases (Aston Philander 2011). Related to such practices lie predominant traditional medicine services for treating cultural afflictions (Cocks and Dold 2000) endured by Black South Africans such as *Idziso* which consumes its victims through social misfortune, illness and death (Ashforth 2001). Removing Idziso requires treatment by powerful professional healer-priests such as *amagqirha* who use specialised traditional herbal medicines. *Amagqirha* (and to differing extents *amaxwhele*) operate at the interface of practising religion, magic and medicine (Cocks 1997), maintaining contact with ancestral spirits to detect causes of misfortunes and prepare the required treatments from specific, commonly ancestrally advised biological resources. Although traditional healer practices can be quite distinct, they remain compatible between various South African cultural groups, for example,

Aston Philander ([2011]) describes how Western Cape Rastafarian herbalists have appropriated Zulu, KhoiSan, European and Xhosa healing traditions to treat across cultures and belief systems. South Africa's widespread traditional healing services effectively operate in addition and sometimes in preference to Western medical systems (Natrass 2006).

Traditional healing practices are foundationally different from Western medicine – virtually all healers are trained through word-of-mouth apprenticeships by elder healers; medicinal ingredients are commonly wild-harvested by healers or traders and transported by foot and informal minibus taxi; and medicines are traded in cash from street or home-based treatment rooms.

Retail medicinal market studies in KwaZulu Natal (Mander 1998), Eastern Cape (Dold and Cocks 2002), Mpumalanga and Limpopo Provinces (Botha *et al.* 2004) and Johannesburg (Williams *et al.* 2007) reveal the predominance of medicines from wild-harvested biological materials. Potentially gathered from communal lands, and in some cases protected areas, a wide diversity of wild gathered species forms the basis of this largely informal economy.

Using VCA to interrogate the Cape Town informal traditional medicine economy

Supply chain or commodity chain studies of natural resource markets in Africa are not new, and have been used to enhance insight into natural resource trade and markets throughout the world. For example, insight into African natural resource commodity chains includes research into charcoal production in Senegal (Ribot 1998), bushmeat in Democratic Republic of the Congo (de Merode *et al.* 2004) and Ghana (Cowlishaw *et al.* 2007) and other items such as chewing sticks, devils claw and shea butter (Sunderland and Ndoye 2004). In the South African context, Mander *et al.* (2007) and Botha *et al.* (2004) have detailed the organisational network of participants that comprise the harvest and trade of wild-harvested traditional medicines. Such insights detail the physical structure, material flows and operation of inter-actor trade and activities within markets, commonly incorporating the context of the market in ecological, economic and trade dynamic terms.

The application of VCA takes industry studies beyond the documentation of business activities within commodity chains, by investigating these systems in terms of their ability to create and deliver value as defined by consumers (Taylor and Fearne 2009), through unravelling the key factors that drive consumer demand for products within the chain. By investigating decision-making along the various points in the traditional medicine supply chain and exploring how decisions relate to the provision of consumer value, VCA also addresses chain governance, power dynamics, information sharing amongst participants and the impact of external stakeholders. In this way, VCA is a useful analytical tool in understanding the overriding policy environment and the way in which firms participate in the global economy. As such it is of particular usefulness for strategic thinking (Kaplinsky and Morris 2001) in viewing a commodity economy within its encompassing physical, cultural, demand and policy environment.

Applying VCA to investigate consumer demand within the traditional medicine commodity chain has potential to provide greater depth of understanding of the interplay of economic and cultural demands, and to unravel the various attributes demanded of traditional healers and their medicines. Through this process, VCA also identifies opportunities to improve a chain's performance, both internally by achieving greater efficiency and effectiveness, and externally by improving the enabling environment such as through better policies (Fearne *et al.* 2012).

The study area

Cape Town is a coastal city of 3.74 million people (Statistics South Africa 2011) bounded to the north, west and south by the South Atlantic Ocean and to the east by the Hottentots Holland mountain ranges. The historic city occupies land between the foot slopes of the Table Mountain National Park and the sea, sprawling eastwards onto a large sandy plain of working-class "townships" and at least 232 informal settlements (City of Cape Town 2008) known as the Cape Flats. Cape Town's population is culturally cosmopolitan (McDonald 2008), including 48% Coloured (commonly descended from Khoisan and mixed ethnic influences), 32% Black (primarily isiXhosa affiliated) and 18% White South Africans (City of Cape Town 2009). Cape Town is a fast growing centre. In 2006, authorities estimated in-migration of 13,000 persons per month, largely isiXhosa rural migrants from the Eastern Cape Province (Poswa and Levy 2006).

Of Cape Town's 904,000 households, 22% are economically indigent, of which over half reside in untitled informal dwellings (City of Cape Town 2007). Formal unemployment in the Province is 20.3% (Stats SA 2010), although it exceeds 60% in some parts of the city (DSD 2007). It is within these communities that the informal economy of traditional medicine is rooted, and the research was undertaken.

Methodology

The methodology involved four phases. Firstly, township business censuses were conducted in various residential communities to identify traditional healer enterprises. Once these were identified, Phase 2 involving VCA was conducted. As informed by Hellin and Meijer's (2006) guidelines for VCA, all willing traditional healer participants partook in quantitative and qualitative business interviews examining product procurement, business process and value adding. Building upon data collected in Phase 2, Phase 3 involved conducting a randomised household survey of traditional medicine consumer markets. Finally, the researchers conducted desktop analysis including linking physical aspects of traditional medicine commodity chains with value chain data. The research was undertaken throughout 2011. To enhance participant comfort and ensure correct interpretations of responses, a culturally representative and multilingual investigatory team with practical understanding of informal trade operations and the legal and cultural sensitivities surrounding harvest and use of traditional medicine was trained by the lead researcher and participated in field research. All data were anonymised.

Phase 1: identifying traditional medicine businesses within the research sites

With respect to city demography, township and informal settlement characteristics, and economic activity, five representative research sites were investigated, as illustrated in Table 1.

The research team traversed each of these areas on bicycle and foot, progressively visiting all streets within the suburb boundaries (as demarcated by census enumerator areas for Statistics South Africa). All recognisable traditional healing business activities as determined from signage, extensive dialogue with local residents, healer referrals, and those occupying public space such as hawkers on street pavements were recorded. The process was halted once the entire suburb had been traversed and >90% of traditional healer referrals revealed previously located healers. The traditional healers were informed of the

Table 1.   Urban settlements in Cape Town featured in the traditional healer business study and traditional healing/medicine consumer survey.

Name	Urban characteristic	Population[a]	Research activity
Capricorn	Formalised, electrified urban settlement comprising state-funded three-room brick houses	18,270	Business study
Overcome Heights	Largely unserviced informal slum	11,587	Business study
Seawinds	Formalised, electrified urban settlement comprising privately built and state-funded brick houses	7689	Business and consumer study
Sweet Home	Serviced and unserviced informal slum	16,000[b]	Business and consumer study
Imizamo Yethu	Serviced and unserviced formal urban settlement and informal slum	18,000[c] (estimated)	Consumer study

[a]Population data derived from Stats SA (2001) and Census Plus (2007).
[b]Own estimate from 2011 aerial photo household counts.
[c]Harte *et al*. (2009).

objectives of the research and their consent secured. All practising healers were interviewed within their homes/practices.

Phase 2: conducting VCA through qualitative interviews with traditional healers

As suggested by Hellin and Meijer (2006), in order to capture the nuances of participant realities the researchers conducted VCA using multiple techniques of interviews, casual conversation and participant observation. The 40 minute semi-structured interviews with traditional healers included questioning on predetermined topics of demography, household structure, income streams, traditional medicine products, prices, and opportunities and threats to business. Further to general participant responses, on these topics, commodity chain mapping of raw and processed materials and traditional medicines was undertaken. This allowed for documenting physical flows of products from harvest source to consumption. For each step in the commodity chain participant perceptions of major business influences, including other chain participants, support industries such as transport, and the broader environment including policy, infrastructure, institutions and processes that influence the market. To gauge raw traditional medicine ingredient harvest levels and localities, overall quantities (estimated by the commonly used 20 kilogram polypropylene bag), types (by medicine name and where possible by physical specimen) and locality (by province/country) of biological materials harvested and purchased by the healer in the past 12 months were estimated.

Participant insights were further detailed through subsequent open-ended questions and informal discussion – in essence "conversations with purpose" (Drury *et al*. 2011) – allowing the researchers to inquire without unintended influence, iteratively creating opportunity for broader discussion to emerge. This provided an overall sense of the participants' rationale for involvement in the traditional medicine, giving insight into what they were doing, justifications for their activities and how they formulate decisions (such as where to harvest wild materials, and what materials to gather). Broad ranging conversation also revealed commodity chain dynamics that formed the enabling business environment, and other factors not easily known beforehand.

Phase 3: conducting VCA with traditional medicine consumers

As the traditional medicine market is driven by consumer demand, investigating consumer perspectives on the market is essential for effective VCA (Fearne *et al*. 2012). In this case, the consumer study utilised a questionnaire tool informed by the traditional healer qualitative data. The researchers undertook a consumer survey of 235 South African adults (18+ years), with each residing separately in randomly selected households in the study sites. After participant consent was obtained, the consumer survey occurred as a rapid assessment over 15 minutes, exploring participant demographics, socio-economic data and qualitative understanding of the nature of demand for various traditional medicines, consumer expectations of traditional healers, product prices and uses. Gaining understanding of the critical success factors that consumers seek in procuring their particular traditional medicines is essential, for any future attempts to shape the industry will fail if they are not mindful of the drivers of demand which perpetuate the trade (Kaplinsky and Morris 2001).

Phase 4: desktop analysis

The traditional healer and consumer survey findings were recorded in Microsoft Excel, examined for frequencies and commonalities and reviewed quantitatively and qualitatively. Specifically, the data were used to map traditional medicine commodity flows from harvesting activity and location through the various traditional healer participants who conducted processing and eventual retailing to the end consumer. Interpreting the data at the value chain level included documenting the behaviours and relationships between participants and consumers, governance mechanisms, financial values, value adding, participant insight, and stated drivers of the market.

Further to exploring the operation of the chain, consumer survey data such as medicine names, treatments and pricing were reviewed and cross-checked against traditional healer responses. This allowed for the creation of a broad industry and consumer perspective for analysis.

Results

Unravelling the commodity chain of traditional medicines

Similar to many developing country primary producer groups (Trienekens 2011), the commodity chains linked to traditional healing are largely vertically integrated across all healer types. All traditional healers reported conducting wild resource harvests, processing gathered raw materials into medicinal products and retailing these products to end-consumers through commonly home-based cash businesses.

Typography of traditional healers

Across all research sites, 58 traditional healers of various ethnicities and practices were interviewed. The researchers were able to classify them into two predominant and largely culturally distinct groups, amagqirha/amaxwhele and Rasta herbalists (Table 2).

Though each group was culturally and ideologically distinct, there were numerous commonalities in practice and treatments. All research traditional healer participants had been informally trained as medicinal practitioners by others within their vocation. All amagqirha were Black South Africans and commonly female, amaxwhele were males of varied

Table 2.   Healer types, ethnicity, interview numbers and average age.

Traditional healer type	Ethnicity	Number	Male	Female
Amagqirha	Black African	36	16	20
Amaxwhele	Coloured and Black African	9	9	0
Rasta herbalists	Coloured and Black African	13	13	0
Total		58	36	22

ethnicity, whilst Rasta herbalists were exclusively male, predominantly Coloured South Africans.

The traditional healers reflected important differences between their work and the treatment of Western illnesses, medicines and practices, including the use of approaches directly relevant to local culture, spirituality and belief systems. The amagqirha and amaxwhele saw complementary roles for Western medicine, whereas Rasta herbalists largely shunned such practices and favoured their own treatments.

Income

The income generated from traditional healing is an important financial contributor to traditional healer households. For the amagqirha and amaxwhele, traditional healing provided the primary household income. Rasta herbalists commonly did not declare financial returns from related illicit marijuana sales (including material locally harvested from undeclared locations) which for some anecdotally comprised the majority of their overall income. Using a proxy of increased car ownership in this cohort, it is likely that individually reported Rasta income is understated (Table 3).

Traditional healer households generally had multiple income streams. For 53% of respondents, this included state welfare grants (child support grants of US$30 per month per child, or various pensions of up to US$125 per month). A further 15 of the 58 traditional healer households had a member in on-going formal employment – commonly unskilled domestic or gardening work, security or construction labour. Of the 20 female amagqirha interviewed, nine had experience as household domestic workers – using the income from this employment to sponsor their amagqirha training.

Whilst all generally retailed their medicines to the general public, only the amagqirha highlighted a common problem of client bad debts, whereby customers fail to fully pay for prescribed treatments. In some cases, up to 40% of traditional healing income was written off in this way (this loss is not reflected in Table 3).

Table 3.   Healer types, household size and average incomes from traditional healing (US).

Traditional healer type	Average household size (residents)	Average monthly household income (excluding healing) (US$)	Average monthly healing income (US$)	Average monthly household income (US$)
Amagqirha	4.8	205	263	468
Amaxwhele	3.1	120	222	342
Rasta (Black)	3.0	219	181	400
Rasta (Coloured)	3.1	380	252	632

Harvest dynamics

Based on an inventory of traditional healer stocks, harvest estimates and commodity chain information provided by the traditional healers, a breakdown of the average volume of traditional medicines wild-harvested per year, according to location, was compiled (and reported in summary format in Petersen *et al*. 2014) (Table 4).

The habitats from which traditional medicines are gathered are widespread throughout South Africa and beyond (typically linked to specific resource availability and cultural affiliation of the healer). Broadly speaking for amagqirha and amaxwhele, their respective originating regions of the Eastern Cape are the predominant source of wild-harvested biological materials. Despite some local collection activities by these healers, harvesting wild resources within Cape Town wild landscapes by these groups was limited, with most respondents considering local materials as "too weak" for medicinal use (possibly alluding their growth in local sandy, low nutrient soils) and others fearful of city law enforcement officials. Materials are transported from harvest origins to retail destinations by public minibus taxi or long-range bus services in polypropylene bags (freight is levied per bag by transport providers). Only 2 of the 45 amagqirha and amaxwhele (4.5%) owned a motor vehicle.

For Rasta herbalists, the wild lands of the Eastern and Western Cape, and Cape Town are important sources of medicinal material. Rasta herbalists reported conducting harvests themselves (89% of materials), and harvesting more than twice the average yearly quantity of biological materials collected by the amagqirha and amaxwhele. This important finding contrasts with traditional medicine trade studies in other South African localities (Mander 1998, Dold and Cocks 2002, Botha *et al*. 2004, Williams *et al*. 2007), where Rasta herbalists were largely absent in local settings. Additional to the amagqirha and amaxwhele, 4 of the 13 (31%) Rasta respondents owned cars – commonly small "bakkies" or utility vehicles. These reportedly played an important role in transportation to harvesting sites allowing for increased resource stockpiling, potentially enhancing productivity and trade opportunities. These cultural, harvest and business dynamics are important local considerations in the Cape Town setting.

With respect to governance of local harvests, unlike the Eastern Cape, those conducting Cape Town wild-harvesting activities reported conflict with nature conservation staff and police, a finding confirmed by Cape Town nature conservation officials. For many, this outcome served as an important deterrent. Some however, despite the risks, continue – generally Coloured Rasta herbalists reportedly working in small groups to clandestinely extract local biological material.

All healer types went to considerable lengths to detail the importance of sourcing wild-grown materials in these localities with a variety of claims including ancestral guidance and enhanced medicinal strength commonplace. Some healers also made limited purchases at traditional chemists in Cape Town, Johannesburg and in the Eastern Cape although usually as a strategy to "top up" wild medicine supplies or source hard-to-find manufactured or niche products. Similarly, the trade between healers was minimal, with sourcing taking place largely from Rasta herbalists, who traded at most up to 25% of biological materials with one another, and very occasionally outside of the Rasta herbalist guild.

Resource supply

The combined results of treatment types administered by all traditional healers revealed that 60 medicines are commonly prescribed for various ailments, 59 of which are plant-based.

Table 4.   Average traditional healer reliance per year for biological materials, according to general localities (city, South African province or southern African country) of origin (Petersen et al. 2014)

Healer type	Cape Town[a]	Western	Eastern	Gauteng	Mpumalanga	KwaZulu	Limpopo	Swaziland	Malawi	Zimbabwe	Total (kg)
Amagqirha	5	6	114	11	4	17	1	1	1	1	161
	3%	4%	71%	7%	2%	11%					
Amaxwhele	18	0	110	0	0	0	0	0	10	0	138
	13%		80%						7%		
Rasta herbalists (Black)	98	81	197	17	0	0	0	0	0	0	393
	25%	21%	50%	4%							
Rasta herbalists (Coloured)	97	138	74	0	4	10	0	3	0	0	326
	30%	42%	23%		1%	3%		1%			

[a]All references to Cape Town include areas adjacent to the city as the political boundaries are not physical boundaries.

Although the nature and composition of manufactured medicines appear somewhat variable, component natural resource ingredients have varying utility and importance to traditional healers. At least 81 floral genera (including ∼51 known species) are required in their manufacture. Some were non-specific biological items (such as *Aloe* or *Watsonia* spp., or comprised an unknown type and number of ingredients), and 14 were of unknown composition. Twenty-eight are collected within the City or the Cape Floristic Region. As all of these species are wild harvested, there are no known inventories of stock, however using indicators of conservation status as a guide, of the ∼51 known species that constitute highest healer demand, 14 (27%) share International Union for Conservation of Nature Red List status from Vulnerable to Endangered, raising sustainability questions, whilst 28 are of least concern and 9 remain unlisted.

Processing, value adding and retailing

Product transformation from raw material to medicine is minimalistic, ranging from the stripping of unwanted materials such as leaves and dirt from harvested products, through to complex grinding and blending procedures for specific preparations. Processing generally requires kitchen graters and mortar and pestle-type grinders. Materials are commonly mixed together into specific preparations, and in the case of the amagqirha and amaxwhele sometimes blended with sand, water, food dyes, toothpaste, petroleum jelly and/or aqueous creams to make specific treatments such as creams and tinctures. Products are dispensed in re-used glass bottles or wrapped in newspaper and shopping bags. Conversely, Rasta herbalists commonly mix shredded materials together and dispense them into paper bags, with various client ailments nominated in text on the bag.

All healer types commonly display raw products to clients (generally within a consultation room in a private house, in a street trading environment and in three cases a dedicated shopfront). The business model for retail trade differs between healer types. The amagqirha and amaxwhele charge an initial consultation fee (commonly considered a financial deposit) to potential clients, and calculate a total treatment cost estimate of anywhere between US$5 and $500 according to specific diagnoses. Upon client acceptance of the cost estimate, the healer will source and manufacture the necessary medicinal treatments. Conversely, Rasta herbalists tend not to conduct patient consultation, rather dispensing advice and selling to the general public via informal street markets at US$1–$5 per treatment.

Investigating traditional medicine consumer behaviour

In addition to the behaviour of harvest to retail commodity chain participants, an important consideration in VCA is consumer insight. This phase of the research involved investigation of local consumer markets for traditional medicine in various Cape Town residential communities.

Consumer demography

A mix of Black and Coloured South Africans (reportedly the target market of traditional healers) was encountered in the survey (Table 5).

Possibly due to the weekday research period, the research was biased towards young and middle aged Black females – many of whom were caring for dependent children. The households in the consumer survey were financially poor, with 83 households (35%) relying on state social grants for financial survival. Over half the households (57%) had

Table 5.   Consumer survey respondent demography.

Ethnicity	Number	Male	Female	Av. Age (years)
Black	219	73	146	35
Coloured	16	10	6	38
Total	235	83	152	34.8

at least one occupant in formal employment such as domestic work (28), gardening (15), food services (13) and security guarding (8). Twenty-seven households were engaged in informal economy trade including unlicensed liquor retailing, street trading, transport and traditional healing. The highest household income was R10,000 per month for one residence, whilst four households claimed to have no income at all.

The great majority (193 respondents) had secondary school education, with 11 having post-matric education. Conversely, 31 had no education or some level of primary schooling only.

Users of traditional healers and traditional medicines

Participants were asked to recall their last 12 months usage of state-provided medical facilities, traditional healers and traditional medicines (purchased from healers or herbalists), as summarised in Table 6.

Use of traditional healers and medicine is generally commonplace in the consumer market, primarily amongst Black South Africans who exclusively form the clientele of traditional healers, commonly in addition to Western medicine. There is considerable reliance by all ethnicities on traditional medicines – commonly purchased from healers or street markets.

Most respondents (224) shared their age in the consumer survey. Table 7 shows the influence of gender and age on use of traditional healers and traditional medicine.

In this research, young men (under 35 years of age) are the likeliest user groups with more than two-thirds of the sample utilising traditional medicine, compared to 52% females of the same age. Although a smaller group in the sample, men of all ages revealed themselves to be more likely than women to utilise traditional healers.

For both men and women, the likelihood of utilising a traditional healer remains constant throughout age classes, although interestingly for both genders the use of traditional medicines declines with increasing age. This may relate to the largely psychological role played by traditional medicines (discussed following) and the social, economic and health issues faced in South Africa's relatively young general population (Statistics South Africa 2011).

Coloured respondents highlighted the visiting of Rasta herbalists – but purely to purchase traditional medicines rather than utilising Rasta consulting services. This is similar

Table 6.   Respondent use of state-provided medical clinic, traditional healers and traditional medicines.

Ethnicity	Visited clinic in last year (%)	Visited traditional healer in last year (%)	Visited clinic and traditional healer in last year (%)	Used traditional medicine in last year (%)
Black	68	50	30	62
Coloured	43	0	0	43

Table 7.   Consumer use of informal medicinal services by age class and gender.

Age class	Total interviewed	Female (total)	Female traditional healer users	Female traditional medicine users	Male (total)	Male traditional healer users	Male traditional medicine users
18–35	125	78	32 (41.0%)	41 (52.5%)	47	23 (48.9%)	34 (72.3%)
36–64	99	60	24 (40.0%)	26 (43.3%)	39	19 (48.7%)	16 (41.0%)

to the findings of Loundou (2008) on Rasta herbalists who commonly trade their harvested materials as advice bearing street vendors rather than the *amagqirha* business approach as consultant specialists. The majority of coloured traditional medicine users in the study relied on such Rasta vendors for their medicinal supplies.

Consumer traditional medicine preferences and uses

The combined results of traditional medicine use within the consumer survey revealed each medicine's relative consumer importance and predominant uses, as shown in Table 8.

The consumer demand data reveal strong correlations with reports from traditional healers about the types, importance and trade in traditional medicine. Of the 19 medicines of greatest consumer demand, 17 were reportedly used for cultural ailments, including luck enhancement. This correlates with findings by Natrass (2006) who found that amagqirha clients generally considered that it was "pure luck whether you got a job or not". The locally high formal unemployment in the research site points to the use of traditional healers and medicine in this regard.

When reviewing most demanded medicines with traditional healer harvest data, the geographically widespread nature of natural resource collections required to supply consumer demand becomes apparent. Harvest localities are widespread, with local (Cape Town), regional (Western Cape) and national (Eastern Cape and KwaZulu Natal) featuring prominently as resource collection areas. Importantly for local policy-makers, 30 of the 51 harvested species (including one inert substance) are potentially collected in the Cape Town or Western Cape region.

Average spend

Amagqirha clients spent an average of US$65 on the service over the previous year with some gaining access for no cost and one individual paying an on-going yearly retainer totalling US$470 for regular visits. Consumers commonly spend US$25–$70 in any one transaction – potentially involving single or multiple consultations and treatments. The consultation fee is variable, dependent on, and inclusive of, the medicines prepared and dispensed. Rasta herbalist customers spent US$5–$10 on pre-prepared herbal treatments as required. Considering that relatively accessible government medical clinics are free of charge, the willingness of consumers to pay for traditional healing and medicines reveals both a parallel and culturally important activity.

Decision-making influences

For those Black South Africans who utilised the services of a traditional healer, a number of factors were influential in their consumer decision-making, as outlined in Table 9.

Table 8. Ranking of important traditional medicines according to consumers and healers, their uses, constituent species and harvest locality.

Name	Consumer rank of importance (by response)	% Consumers using (%)	Healer rank of importance (by response)	Use descriptions	Source species	Known harvest habitat
Imphepho	1 (116)	53.00	1 (13)	• Luck	*Helichrysum cymosum* Sch.Bip. subsp. *cymosum*	WC, CT
				• When I start a new job for luck there		
				• Burnt to chase the iTikoloshe (bad spirits)	*Helichrysum odoratissimum* (L) Less.	WC, CT
				• Use this every day for the ancestors	*Helichrysum* spp.	EC, WC, CT
Intelezi	2 (71)	32.50	6 (3)	• Luck	*Aloe* spp.,	EC, WC, CT
				• Wash with this to clean off the bad luck after a funeral	*Aloe boylei* Baker,	EC, KZN, MP
				• You eat it and the curse comes out	*Aloe ecklonis* Salm-Dyck,	EC, KZN, MP
				• After you are back from prison you wash with it	*Aloe maculata* All	WC, EC, KZN
					Aloe tenuior Haw	EC, KZN, Mp, WC
					Albuca aurea Jacq.	WC
					Aptenia cordifolia (L.f.) Schwantes	EC, KZN, Mp, L, WC
					Bulbine asphodeloides (L.) Spreng.	EC, KZN, FS, G, WC, CT
					Crassula spp.,	
					Delosperma spp.,	
					Dracaena aletriformis (Haw.) Bos.	EC, KZN, Mp

					Eriospermum sp	
					Gasteria bicolor (Hook.f.) Baker. var *bicolor*	EC, WC
					Gasteria croucheri (Hook.f.) Baker	EC, KZN
					Gasteria nitida (Salm-Dyck) Haw	EC
					Gasteria sp	
					Haworthia attenuata (Haw.) Haw	EC
					Haworthia Sp	Unknown
					Satyrium parviflorum Sw.	EC, KZN, FS, Mp, L, WC
Wild garlic/ Isivumbampunzi	3 (60)	27.40	5 (4)	• Chest and flu problems	*Tulbaghia capensis* L.	CT
				• For nausea	*Tulbaghia violacea* Harv.	EC, WC
				• To chase away bad spirits	*Tulbaghia alliacea* L.f.	EC, WC
					Tulbaghia acutiloba Harv.	EC, WC
Umchono wemfene/Dassie piss	4 (44)	20.10	6 (3)	• For pregnant women in delivery to protect from evil spirits	Crystallised dassie (*Procavia capensis*) urine	EC, WC, CT
Iqwili	5 (36)	16.40	6 (3)	• Luck	*Alepedia amatymbica* Eckl. & Zeyh.	EC, KZN, FS, Mp, L, ex SA
				• When there is thunder I put it on the window sill		
				• Chewed for coughs		
					Alepedia macowani Dummer	EC

Table 8. Continued.

Name	Consumer rank of importance (by response)	% Consumers using (%)	Healer rank of importance (by response)	Use descriptions	Source species	Known harvest habitat
Umathunga	5 (36)	16.40	4 (6)	• Cleans the chest and the back	*Asparagus africanus* Lam.	EC, KZN, FS, Mp, L, WC, G
				• For quicker healing	*Haemanthus albiflos* Jacq.	EC, KZN, M, WC
Uchitibhunga	6 (35)	16.00	5 (4)	• Luck	*Rhoicissus digitata* (L.f.) Gilg & Brandt	EC, KZN, M, WC
					Rhoicissus tomentosa (Lam.) Wild & R.B.Drumm.	EC, WC
Uphuncuka	7 (34)	15.50	7 (2)	• For court cases to go well	*Talinum caffrum* (Thunb) Eckl. & Zeyh.	EC, KZN, FS, Mp, L, WC, G
				• If you do something wrong, the police chase you and you want to come out, then you must use uphuncuka	*Crassula vaginata* Eckl. & Zeyh. subsp. *vaginata*	EC, KZN, Mp
Uvelabahleke	8 (33)	15.00	7 (2)	• If you are proposing to your girlfriend and to get people to like you	*Graderia scabra* (L. f.) Benth	EC, KZN, Mp, WC
Buchu	9 (21)	9.50	5 (4)	• To cleanse the blood	*Agathosma betulina* Berg. Pillans.	CT, WC
					Agathosma crenulata (L.) Pillans	CT, WC
African potato/ ilabatheka	9 (21)	9.50	2 (10)	• Joint pains	*Hypoxis argentea* Harv. ex Baker var. *argentea*	EC, KZN, Mp, WC
				• To chase away ghosts	*Hypoxis hemerocallidea* Fisch., C.A.Mey. & Ave-Lall	EC, KZN, Mp, L, G
Umasixabane	10 (20)	9.10	7 (2)	• To enhance reputation	*Scilla* spp.	
Red carrot	10 (20)	9.10	7 (2)	• To remove marks	*Bulbine latifolia* (L.f.) Schult & J.H. Schult. var. *latifolia*	WC, EC, KZN, Mp

Umaphipha	11 (19)	8.70	7 (2)	• Cosmetic • Anti-witchcraft	*Schotia latifolia* Jacq.	KZN, EC, WC
			7 (2)		*Rapanea melanophloeos* (L.) Mez.	KZN, EC, WC, CT
Impinda	12 (18)	8.20			*Araujia sericifera* Brot.	KZN, EC, WC, G
Inkalimasana	13 (15)	6.80	7 (2)	• For the house to chase away bad spirits	*Euphorbia* sp.	
Ixonya	14 (14)	6.40	7 (2)		*Cyperus* sp. *Kniphofia* sp.	
Umja/Dagga	14 (14)	6.40	0 (0)		*Cannabis sativa* (L.) var. *indica*	EC, KZN, FS, Mp, L, WC, G
David root	15 (13)	5.90	6 (3)	• So I don't get caught when I'm driving around without a license • I put it under my tongue to avoid problem situations	*Cissampelos capensis (L.f.)*	NC, EC, WC, CT

Note: CT, Cape Town; WC, Western Cape; EC, Eastern Cape; KZN, KwaZulu Natal; Mp, Mpumalanga; FS, Free State; G, Gauteng; L, Limpopo; NC, Northern Cape and ex SA, foreign.

Table 9.   Justifications for using particular traditional healers.

Reputation (%)	Price (%)	Prior relationship (%)	Medicines (%)	Location (%)
50	20	13	13	4

The business is largely reputational with traditional healer consumer behaviour greatly influenced by the perceived healer ability to diagnose and resolve their ailment. The importance of the ability of individual healers to render these culturally important services was embodied in various respondent discussions, "They [the amagqirha] are able to see things that cannot be seen by ordinary people", and "It's the same as if you ask why people go to church? If you want help you think your ancestors can help you, like some think that god can help them". Consumers commonly highlighted notions of "strong" and "weak" traditional healers according to their perceived abilities and medicines to resolve cultural problems, with "stronger" healers generally the preferred service providers. Although of secondary importance, pricing, established relationships and availability of specific medicine types also have some influence on consumer behaviour.

Discussion

Investigation of the commodity chains of Cape Town traditional medicine businesses reveals an informal economy network structure of simple, independent and largely vertically integrated business serving a high local cultural demand. Despite its common illegality, the harvest and trade of wild medicines occurs relatively openly on an informal basis in parallel to existing formal and legal structures. Similar to other South African studies (Mander 1998, Dold and Cocks 2002), local traditional healers are reliant on minimal value adding through simple hand technologies and dispensing self-made medicines in recycled bottles or wrapped in newspaper with undocumented ingredients and no expiry dates. Reflecting this simple commodity chain and limited value adding, traditional healer incomes are generally modest although above the poverty line of US$62 per person per month (Finn *et al*. 2012, Botha *et al*. 2004). As demonstrated by Walwyn and Maitshotlo (2010), Mander *et al*. (2007), Botha *et al*. (2004) and Dold and Cocks (2002), most practitioners conduct the activities of harvesting, processing and retailing themselves within an embedded cultural framework. Considerable individual work effort is required to sustain the business, including sourcing a diversity of wild materials from a variety of local and distant landscapes of which the Western Cape is a prominent source of supply.

Additional to other South African (and African) studies, this investigation reveals how Cape Town traditional healing enterprises are largely home-based businesses which differs to the more centralised markets described in other South African localities of Durban, Eastern Cape and Johannesburg (Mander 1998, Dold and Cocks 2002, Williams *et al*. 2007). This research also considers the additional cultural group of (commonly indigenous-claimant) Rastafarian healers into the informal traditional medicine milieu. This new group brings about further consideration for managing the trade, for as demonstrated in this study the ecological impacts of wild medicine harvests are not created equally amongst industry participants. Amagqirha and amaxwhele have greater geographic harvest spread in broader South Africa and particularly from their Eastern Cape origins, whilst Rasta herbalists collect considerably greater quantities commonly from local

habitats, increasingly illicitly operating in protected areas around the city (P. Glanville, personal communication, November 2011; T. Mahashe, personal communication, July 2012). Upgrading this value chain in its current form in order to enhance participant income is largely restricted due to the potentially low levels of legally available resource inputs – particularly in the Western Cape where much land is privately owned (not by the healers themselves) or designated for conservation protection.

The value chain approach confirms findings by Mander (1998), that traditional healing and medicine remains a cultural preference in contemporary South African society, catering for consumer demands not met by Western medical care for which access to natural, preferably wild resource ingredients is considered a cultural requirement. According to data derived from the consumer survey and building upon Natrass (2006), 90% of the medicines prescribed by the amagqirha are for enhancing the patient's state of mind. In this respect, the amagqirha perform an important role – effectively operating as preparers and dispensers of culturally appropriate medicines for psychological well-being as biomedicines' version of formally trained psychiatrists. Conversely, Rasta herbalists retail largely to the street trade by promoting the medicinal properties of prepared herbal products for curing physical ailments. All rely on the uniqueness and "wildness" of their medicine stocks as a key reputational attribute. In this sense, traditional healer market orientation and operations form a distinct medicine "sub-system" (Trienekens 2011) in local circumstances, where access to formalised state-provided medical care can be problematic (Breier 2008)

The importance of reputation

An important aspect in this traditional medicine study has been the utilisation of VCA to understand consumer demand drivers within the local commodity chains. Importantly, in resolving common "cultural afflictions" (Cocks 2006), consumer reasoning for visiting particular traditional healers relates primarily to the healer's reputation. In this respect, reputation is bolstered by healer claims of harvest origination, "wildness" and purported efficacy of healing practice and products. Traditional healers reinforce this reputation through culturally important behaviours including conducting their own wild-harvesting of materials invariably far from their residences, processing of traditional medicines and client consulting. Wild-sourced materials collected and administered by the healer purportedly enhance the perceived strength of prescribed treatments.

As both consumers' and healers' demand preferences are for wild-sourced products, this will challenge efforts for cultivation of traditional medicines to bolster the sometimes questionable ecological sustainability of the industry (Netshiluvhi 1999, Botha *et al*. 2004, Mander *et al*. 2007, Petersen *et al*. 2012). The challenge is that whilst healers may indicate preparedness to alternatively source cultivated materials for traditional medicines (Botha *et al*. 2004), the principal cultural drivers of consumer demand may not necessarily change, so that as long as wild-harvested medicines are perceived by the market to have greater strength and efficacy, and remain available (even at a cost premium), cultivated substitutes may gain limited consumer support. Practically speaking within the trade, healers known to be selling predominately cultivated materials may compromise their healing reputation in the face of competitors trading in wild stocks. Considering the importance of reputation in this cultural industry, the potential individual reputational risk in trading non-wild materials may outweigh the broader benefits for medicine supply and promoting enhanced ecological sustainability.

A future state

From an industry sustainability perspective of maximising consumer value, encouraging innovation and improving environmental management (Fearne *et al*. 2012), improving the future state of the industry would include enhancing financial returns for industry participants whilst decreasing potential illegality and ecological risks from wild harvesting. The logic of VCA suggests that these improvements can be made through upgrading the industry by increasing revenues for participants through greater efficiencies and/or potentially increasing price premiums for the consumer (Taylor and Fearne 2009). However, in achieving such upgrading, some underlying aspects will remain difficult to address. The present traditional healer culture of individualism and relative non-cooperation raises individual costs as most value chain participants conduct all commodity chain functions, allowing for few economies of scale. As an ancestral calling, the amagqirha are unlikely to relinquish culturally important aspects of the business to others. Conversely, the researchers found some cases of Rasta herbalists outsourcing (commonly illegal) local harvesting to colleagues. In these cases, healers have cultural and/or economic motivations to continue wild-harvesting practices. These different variations and complexities pertaining to the harvest of medicinal plants (Botha *et al*. 2004) complicate potential developmental interventions. In fact, despite legal recognition of the cultural importance of traditional healers through the Traditional Healers Practitioners Act (22 of 2007), without broader recognition of healer requirements for wild-harvested resources, it can bring about little substantive income or livelihood enhancements which are critical for industry development.

An important strategy in building emerging market agrifood value chains is to increase the value in the chain through consumer price premiums (M4P 2008) such as by enhancing product credence claims (for example, certified eco-friendly or organically grown products). For traditional medicine consumers, however, healer reputation and wild-harvested (perceived "strong") medicines are key attributes for consumer decision-making. Even with generally rising incomes, most township consumer households are financially limited and unlikely to pay premiums for attributed products unless the attribute directly appealed to their sense of value. As such, under current market conditions, attempting to coordinate the raising of retail prices of traditional medicine to enhance individual profitability is unlikely to work. Firstly, large numbers of independent healers from divergent cultures and backgrounds will unlikely agree on new product standards or coordinated price controls in the market. Secondly, increasing profit opportunities through setting price premiums on a market dominated by wild-harvested materials may actually decrease industry sustainability through encouraging more profit-driven and clandestine harvesting behaviour as demonstrated by rampant local illicit abalone extraction (Steinberg 2005), where harvest controls are limited.

Nevertheless, possibly through improved business and consumer understanding and growing state attention to this activity, some further research and coordination could be useful.

(1) Further research at the consumer level to better understand what builds the "reputation" of healers.

Improving understanding of the critical reputational features that clients seek in individual healers could be useful. If traditional healer reputation is bolstered by non-medicinal attributes such as ancestral linkages or by being an effective listener, then perhaps a model of traditional healing less reliant on wild-sourced medicines could be facilitated.

> (2) Further investigation at the consumer level of the value chain to enhance under-standing of perceptions of "wildness" and "strength" of traditional medicines.

Further research efforts should be made into consumer understanding of "wildness" attributes for traditional medicines. With improved knowledge of medicine wildness attributes, it is possible that sensitive and pragmatic interventions around harvesting and traditional medicine procurement could be devised. Building on discussion by Mander *et al*. (2007) and Botha *et al*. (2004), this could include enhancing guidelines for wild harvesting from natural habitats, potential enrichment planting of wild-harvested habitats and developing culturally acceptable forms of cropping or commercialising. Furthermore, if particular medicine "strengths" could be isolated (i.e. smell, appearance, taste or similar), then perhaps an opportunity to develop and release alternative products with these attributes to the market could be pursued.

> (3) Improving state land custodianship

The findings of this study point to the relative prominence of Western Cape wild lands as sources of medicinal plant supply. Various institutions of South African government are managerially responsible for such landscapes (Shackleton 2009). Whilst strengthening custodianship over state lands through increased organisational and managerial capacity (from planting or nursery programmes through to enhancing security and species management measures in areas of known high harvest impacts) may reduce potential ecological impacts, this will not influence underlying consumer demand for wild stocks.

Interventions to support the business of traditional healing harvesting and practice would benefit from increased general understanding of the operations of South Africa's informal economy, the growing nature of which (Devey *et al*. 2006), means that future industry formalisation appears highly unlikely.

Conclusions

This investigation of commodity chains within Cape Town's informal traditional medicine industry has provided a greater depth of understanding of its harvest, trade and local consumer behaviour. Cape Town's contemporary cultural requirements for wild medicinal resources are reflected in considerable local consumer demand for this distinct medicine sub-system. Investigating the traditional medicines market through application of VCA has revealed the nuances of consumer demand, particularly the role of healer reputation and the need for wild medicine as an important influence in consumer decision-making. Differing from many previous South African studies, it also revealed the household nature of many traditional healer business activities. The research also revealed the comparative prominence of Rasta herbalists in the local setting. Such findings have potential to enhance future policy and development interventions for this culturally important business activity.

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