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Development of a Framework to Assess the Economic Impact of Coastal and Marine Tourism in South Africa – Phase Three (3)

University of KwaZulu-Natal

FINAL REPORT

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1. Introduction and background

Coastal and Marine Tourism (CMT), as part of the oceans economy, offers significant development opportunities that can contribute to job creation and sustainability. However, that there are limited national and international best practices to assess the economic impacts of CMT. Furthermore, there are no specific accepted methodological approaches to assess the economic impacts of CMT within a country context. This Phase 3 component of this research builds on Phases 1 and 2 of the project to develop a framework to assess the economic impacts of coastal and marine tourism in South Africa. Phase 1 (undertaken in 2016/2017) was a desktop study which included a review of the relevant literature which examined national and international perspectives to identify best practices and current trends with regard to assessing the economic impacts of CMT in order to inform the development of a framework to assess CMT's contribution to South Africa's tourism sector. This Phase also identified appropriate economic indicators and models, specifically Cost Benefit Analysis (CBA), Input-Output (I-O), Tourism Satellite Account (TSA), general equilibrium models and time-series forecasting methods. Phase 2 of the study which was undertaken in 2017/2018 focused on developing and piloting data collection surveys and examining which economic modelling approaches were appropriate to assess the economic contribution of CMT to South Africa's tourism sector.

This draft report presents the descriptive analysis of survey results from key stakeholder groups. The results are used for the economic modelling which is presented as well.

2. Context/ rationale for the study

The United Nations Conference on Trade and Development (UNCTAD, 2014) notes that CMT is one of the key sectors contributing towards the development of the oceans economy. One of the key challenges in destinations is often the availability of data to measure the economic impact of CMT. It was also evident that in South Africa (and globally) there is currently limited data available relating to the economic impact of CMT. There is therefore inadequate economic information available in relation to CMT (and the oceans economy more generally) although the South African government has plans to accelerate growth and

development by unlocking the potential of CMT to create jobs and improve socio-economic conditions of previously disadvantaged communities. Current economic impact studies focus primarily on economic impacts of CMT events in specific locations as well as national and global contexts or product specific contributions (such as whale watching and shark diving). These case studies are limited and fragmented. The main methodological approaches used were survey-based (tourists/ visitors and tourism enterprises), macro-economic analysis drawing on national economic data and use of international datasets. Thus, a standardised framework to measure, monitor and manage the economic impacts of CMT in South Africa needed to be developed.

The framework includes identifying which of the following economic models identified as best practices and relevant in the South African context will be the most applicable:

- Input-Output (I-O) models: used to study the environmental, social and economic repercussions and impacts of human activities – focus is on direct, indirect and induced demand as well as multiplier effects using specific indicators such as Gross Domestic Product (GDP), labour income and employment.
- Tourism Satellite Account (TSA): TSA is the single most important new macro-economic policy analysis tool developed in the last several decades to measure tourism demand and its implications for a national economy. TSA is a method of measuring the direct economic contributions of tourism expenditure to a national economy using the System of National Accounts.

3. Problem statement

CMT, as part of the oceans economy, offers significant development opportunities that can contribute to job creation and sustainability. However, that there are limited national and international best practices to assess the economic impacts of CMT. Furthermore, there are no specific accepted methodological approaches to assess the economic impacts of CMT within a country context. NDT has commissioned UKZN to develop a framework to assess the economic impacts of coastal and marine tourism in South Africa. Part of the project entails undertaking surveys with key stakeholders in purposively selected CMT locations.

4. Purpose of the study

The overarching intention of this research endeavour is to develop a standardised framework that will assist in measuring, monitoring and managing the economic impacts of CMT in South Africa since, as indicated by UNCTAD (2014), the oceans economy offers significant development opportunities for sectors such as sustainable fisheries and aquaculture, renewable marine energy, marine bio-prospecting, maritime transport and CMT.

5. Objectives of the study

The study responds to the following main objectives as indicated in the NDT Terms of Reference and contract with UKZN:

- Identify relevant CMT stakeholders from whom primary data will be collected
- Conduct consultation with provinces and other key stakeholders in relation to the draft framework
- Refine data collection tools
- Develop and implement a framework
- Conduct a workshop to capacitate stakeholders on the framework

In terms of the survey component of the study the main research questions related to:

- What are the socio-economic profiles of CMT demand-side (tourists/ customers/ users) and supply-side (accommodation, tour operators, retail and restaurant businesses/ establishments, and CMT business owners) stakeholders?
- What are the income and expenditure patterns of the demand and supply-side stakeholders?
- What types of CMT products are being consumed and/or what types of CMT activities are users participating in?
- What types of accommodation are being used and what is the length of stay?
- How do users/ consumers/ tourists perceive the CMT destination/ location?
- In relation to the demand-side stakeholders:
    - How many service providers do they use, what is their profile and how much do they pay for these services?

- What is the profile (age, gender, population group and location) of the persons employed in relation to temporary and permanent jobs created?
- What are the high and low seasons in relation to CMT activities?
- What are the average number of clients or occupancy rates of establishments?

6. Research methodology

In terms of the research methodology adopted for the study, the first step entailed revising the survey instruments and sampling framework based on piloting experiences. Specifically, the following survey instruments were finalised in consultation with the NDT, the NDT Research Advisory Forum inputs and economic experts:

- Demand-side
  - Clients/ Customers/ Users
- Supply-side
  - CMT business owners
  - Accommodation
  - Tour operators
  - Restaurants and retail outlets together with a short customer survey to accompany these surveys to establish whether CMT was the main reason for visiting the location

The experiences from Phase 2 also led to the decision that the primary focus of the research will be on generating demand-side data (from CMT customers/ users/ tourists) which is critical for the economic modelling and is easier to collect. The revised sampling framework was developed and submitted to NDT after ethical approval was granted by UKZN's Human and Social Sciences Ethics Committee in September 2018. The sampling framework also included ensuring that peak and off peak seasons were covered.

Table 1 below indicates the planned proportionate targeted sampling distribution by province and number of surveys completed. The target numbers of the customer/ tourist/ user surveys were exceeded by 31. The target sample sizes for the accommodation as well as restaurant and retail business stakeholders were met. However, for the CMT business owners and the tour operators, slightly lower sample sizes were met (78% for the CMT business owners and 94% for the tour operators. The challenges in terms of

demand-side stakeholder interviews were noted in Phase 2 when the surveys were piloted. In the absence of a database, the team conducted interviews at specific locations where the customer/ tourists surveys were being implemented.

As Table 1 indicates, the Northern Cape had a much smaller target sample size due to the proportionate sampling approach adopted in relation to the extent to which respective provinces have CMT products and markets. Unfortunately, however, we could not undertake fieldwork in the Northern Cape. More surveys were undertaken in the rest of the three provinces.

Table 1: Survey sampling distribution by province

Surveys	KZN		WC		EC		NC		Total	
	T	C	T	C	T	C	T	C	T	C
Customer/ tourist/ user	1 200	1220	1 100	1110	600	701	100	-	**3 000**	**3031**
Accommodation	50	58	50	45	20	22	5	-	**125**	**125**
CMT business owners	50	41	50	39	15	14	5	-	**120**	**94**
Retail outlets and establishments (+ 5 customer surveys per site)	50	54	50	50	20	21	5	-	**125**	**125**
Tour operators	25	30	25	23	15	13	5	-	**70**	**66**

T – Target **C – Number completed**

As indicated in the Table below, most surveys for all stakeholders where undertaken in KwaZulu-Natal followed by Western Cape and Eastern Cape. This was primarily because the main research team is located in KwaZulu-Natal.

Table 2: Distribution of surveys per province (in %)

	Tourists/ Customers (n=3031)	Accommodation (n=125)	Restaurants and retail (n=125)	CMT Businesses (n=96)	Tour Operators (n=66)
KwaZulu-Natal (KZN)	40.3	46.4	43.2	43.6	45.5
Western Cape (WC)	36.6	36.0	40.0	41.5	34.8
Eastern Cape (EC)	23.1	17.6	16.8	14.9	19.7

In terms of tourist/customer/user surveys, these were conducted at purposively selected locations. Face-to-face interviews were undertaken. Fieldworkers were allocated specific locations during specific days. They were trained to systematically select persons, that is, on completion of a survey choose the next 20th person that passes by. Thus, they were trained to eliminate bias in the selection of respondents. This is a widely accepted sampling approach in tourism studies, especially at open venues when the target population is

unknown and changes all the time. A screening question included in the survey was to first establish whether the person approached is at the location to participate in or has participated in CMT activities. If the response was in the negative, the person was not be interviewed.

For the other stakeholder interviews, face-to-face interviews were also conducted at purposively selected accommodation, CMT businesses as well as restaurant and retail establishments where the tourist/customer/user surveys were being conducted. Additionally, tour operators frequenting these locations were approached to participate in the study. At each of the restaurant and retail establishments, up to 5 patrons/customers were interviewed as well.

Fieldworkers were identified and trained to undertake the research. Preference was given to identify fieldworkers (who were university students) who were also conversant in the local language, such as isiZulu in KwaZulu-Natal. Fieldworkers were also trained to ensure that they do not interview any persons who are less than 18 years old since only adults were interviewed to ensure ethical compliance. Additionally, since the information sought was largely economic in nature, adult respondents are more likely to have this type of information.

Survey data was inputted into Excel as per the economists' specifications to ensure that the economic modelling can be conducted. Frequency tables were generated to inform the descriptive analysis in this report. It is important to note that were averages are calculated throughout the report (including the expenditure/ spend, income and employment data), these only use responses where actual figures were provided in the responses and do not include responses where respondents did not know or could not recall. The Tables indicate the percentages of persons who did not know/ could not recall or where no response was provided to indicate the overall percentages of these responses. Economic modelling based on data collected is currently being undertaken and this will also be the basis for the development of a framework for future implementation.

The final component of the overall methodology was to conduct a workshop in consultation with NDT to capacitate stakeholders on the framework. The workshop was held on the 14 March 2019 in Pretoria. Additionally, the framework was revised for future implementation based on workshop and other stakeholder inputs. This component also includes developing a training manual for future implementation of the framework which is submitted with this report.

The next section presents the results of the survey data. In terms of the discussion of results, the demand-side analysis of key findings emanating from the tourists/ customer surveys is conducted next followed by a discussion of the demand-side stakeholder surveys (accommodation, restaurants and retail, CMT businesses and tour operators). In terms of the latter, where questions were the same, these are tabulated to permit comparisons among the stakeholder groups. The analysis is undertaken thematically.

7. Data analysis

7.1. Demand-side stakeholder survey results (customer/ user/ tourist)

7.1.1. Demographic profile of respondents

The average age of the respondents was 36 years. Most respondents were in the age categories of 21-30 (28.4%), 31-40 (32.6%) and 41-50 (19.9%) years old. The results show that younger and middle aged groups frequented coastal and marine areas were the interviews were conducted.

Table 3: Age of respondents in years (n=3031)

	Frequency	Percentage
No response/ confidential	9	.3
18-20	191	6.3
21-30	862	28.4
31–40	987	32.6
41-50	602	19.9
51-60	295	9.7
61-70	68	2.2
> 70	17	.6
	X = 36.0	

In terms of the highest level of education obtained, the majority of the respondents had some form of post matric qualifications: undergraduate degrees (32.1%), certificates/ diplomas (20.4%) and postgraduate degrees (19%). Furthermore, 21.6% of the respondents had completed secondary schooling. It was noted that tourists and day visitors had higher educational levels than local residents which are reflective of profiles of persons who travel.

Table 4: Highest level of education completed (n=3031)

	Frequency	Percentage
No response	14	.5
No formal education	33	1.1
Primary completed (7 years of schooling)	16	.5
Partial secondary completed (8-11 years of schooling)	147	4.8
Matric/ secondary completed	654	21.6

Certificate/ diploma	618	20.4
Undergraduate degree	972	32.1
Postgraduate degree	577	19.0

The average monthly income of the respondents was R25 282.49 and with most respondents earning more than R10 000 (49.1%). A substantial proportion (28.4%) did not disclose their income. The higher levels of income are also associated with the profiles of travelers.

Table 5: Monthly net income (after deduction of taxes) in Rands (n=3031)

	Frequency	Percentage
No response/ confidential	28.4	28.4
None	285	9.4
1-8000	193	6.4
8001-10000	204	6.7
10001-20000	275	9.1
20001-30000	413	13.6
30001-40000	366	12.1
40001-50000	391	12.9
> 50000	43	1.4

X = R25 282.49

In terms of gender, almost equal proportions were males (52.1%) and females (47.9%).

Table 6: Gender of respondent (n=3031)

	Frequency	Percentage
No response	1	.0
Male	1581	52.1
Female	1449	47.9

In relation to the population group of respondents, the majority were African (47.8%) followed by Whites (18.9%), Coloureds (10.2%) and Indians (5.4%). Some of the respondents (18.3%) who were mainly foreigners did not disclose their population group. The results do reflect demographic diversity in relation to who visits coastal and marine locations.

Table 7: Population group (n=3031)

	Frequency	Percentage
No response/ not applicable	558	18.3
African	1449	47.8
White	574	18.9
Coloured	309	10.2
Indian	164	5.4

Slightly more than half of the respondents (51.6%) were overnight visitors followed by local residents (21.3%) and day visitors (21.3%). A screening question was whether the respondent participated or will participate in any coastal and marine tourism activity at the location where the interview was being held. The interview continued only if the response was positive. This was to ensure that the study focused on CMT users/ customers. A record was kept of the number of persons who responded in the negative, that is, there were in a beach location but did or would not participate in any CMT activity. In this regard, a total of 1 012 persons were noted. Given that the total number of persons interviewed was 3 031, this indicates that one out of three visitors to the location were interested in or visited the area because of CMT products or activities. The results therefore show that key consumers of CMT products and locations were overnight or day visitors. This suggests that CMT contributes to local economic development attracting visitors into the area.

Table 8: Overnight visitor, day visitor or local resident (n=3031)

	Frequency	Percentage
Overnight	1566	51.7
Day visitor	649	21.4
Local resident	805	26.6

The Table below indicates that most of the respondents were South Africans who are not local residents (47.6%) followed by local residents (26.6%) and foreign visitors (25.8%). This correlates with the majority of the respondents being overnight or day visitors. In terms of the foreign visitors, most were from different countries in Europe and Africa which are South Africa's key tourist markets. Domestic visitors were primarily from KwaZulu-Natal (16.8%), Gauteng (11.6%), Eastern Cape (9.2%) and Western Cape (3.4%). Gauteng is the main domestic tourism market in South Africa for beach tourism. In the provinces where the surveys were conducted, most South Africans were from the province where the interviews were held. Furthermore, most foreign tourists were interviewed in the Western Cape, South Africa's main international tourism market.

Table 9: Place of residence of respondent (n=3031)

	Frequency	Percent
Local resident	805	26.6
Foreign (781 – 25.8%)		
Angola	5	.2
Argentina	11	.4
Australia	29	1.0
Austria	8	.3
Belgium	13	.4
Botswana	8	.3
Brazil	16	.5
Burundi	1	.0
Cambodia	1	.0
Cameroon	1	.0
Canada	22	.7
Cape Verde	1	.0
Chad	1	.0
Chile	1	.0
China	13	.4
Colombia	4	.1
Costa Rica	1	.0
Croatia	1	.0
Cuba	2	.1
Czech Republic	5	.2
Denmark	10	.3
Egypt	3	.1
England	4	.1
Ethiopia	1	.0
Fiji	2	.1
Finland	2	.1
France	21	.7
Gauteng	1	.0
Germany	108	3.6
Ghana	2	.1
India	12	.4
Indonesia	4	.1
Ireland	1	.0
Israel	6	.2
Italy	16	.5
Jamaica	11	.4
Japan	6	.2
Kenya	8	.3
Korea	6	.2
Lesotho	3	.1
Libya	2	.1
Madagascar	1	.0
Malawi	4	.1
Malaysia	8	.3
Mexico	11	.4
Morocco	1	.0
Mozambique	2	.1
Namibia	8	.3

Netherlands	43	1.4
New Zealand	16	.5
Nigeria	6	.2
North Korea	1	.0
Norway	1	.0
Pakistan	2	.1
Peru	6	.2
Poland	15	.5
Portugal	1	.0
Russia	9	.3
Rwanda	3	.1
Saudi Arabia	1	.0
Senegal	1	.0
Singapore	11	.4
Slovakia	4	.1
Spain	32	1.1
Sri Lanka	1	.0
Swaziland	6	.2
Sweden	6	.2
Switzerland	2	.1
Taiwan	2	.1
Tanzania	5	.2
Thailand	1	.0
Tunisia	2	.1
Turkey	4	.1
UAE	8	.3
Uganda	7	.2
UK	51	1.7
USA	94	3.1
Wales	2	.1
Zambia	9	.3
Zanzibar	1	.0
Zimbabwe	20	.7
South Africans who are not local residents (province in South Africa) (1443 – 47.6%)		
Eastern Cape	279	9.2
Free State	51	1.7
Gauteng	352	11.6
KwaZulu-Natal	509	16.8
Limpopo	49	1.6
Mpumalanga	65	2.1
Northern Cape	12	.4
North West	22	.7
Western Cape	104	3.4

7.1.2. Participation in CMT activities

Respondents participated in multiple CMT activities during their visit to the beach location where the interview was undertaken. The main activities that respondent participated in or planned to participate in were sand/beach recreational activities (77.6% participated and 32.4% planned to participate). This was followed by pure recreational (38% participated and 16.5% planned to participate), sightseeing (24,6% participated and 17.8% planned to participate), water sports (15.3% participated and 11.7% planned to participate) and coastal heritage activities (13.8% participated and 13.9% planned to participate). Other key activities respondents participated in that had less than ten percent responses were wildlife tourism, recreational fishing, educational and scientific excursions, ocean experiences, spiritual experiences and scuba diving/snorkelling. It is interesting to note that more than 20% of the respondents for all the key activities listed also stated that they would be interested in participating in these CMT activities although they did not participate in the activities during the visit when the interview was held. This shows high levels of interest in CMT products/activities.

Table 10: Types of coastal and marine tourism activities have or will respondent be participating in during this visit to this beach location (including activities participated in on day of interview) as well as other types of coastal and marine tourism activities interested in participating in in the future (in %): Multiple response

	THIS VISIT		FUTURE
	Did	Will do	Future interest
Wildlife tourism (e.g. whale watching, turtle tours, seals, dolphins)	7.3	5.9	27.0
Recreational fishing (e.g. boat-based fishing, spear fishing, fishing competitions)	6.5	7.3	26.6
Scuba diving/snorkelling (e.g. shark cage diving)	3.1	3.1	23.2
Water sports (e.g. big wave surfing, kite surfing, stand up paddle boarding (SUP), yachting, water skiing, water surfing)	15.3	11.7	34.3
Ocean experience (e.g. cruise tourism, marinas, island tourism, shipwreck diving)	4.9	5.4	30.4
Events (e.g. marine festivals and marine competitions such as yacht races or regattas, fishing competitions)	6.0	4.8	27.6
Sand/beach recreational activities (e.g. swimming, walking or running, kite-flying, beach combing, sand dune surfing)	77.6	32.4	45.0
Coastal heritage activities (e.g. local seafood and cultural tourism, cultural history)	13.8	13.9	31.4
Sightseeing (e.g. light house tourism, cycling, marathons)	24.6	17.8	36.8
Educational and scientific excursions (e.g. aquariums)	6.3	6.6	31.2
Spiritual experiences	3.7	4.6	27.7
Pure recreational (e,g., dining out, shopping)	38.0	16.5	30.7
Beach monitor	.1	-	-
Casino	.1	.1	-
Research	.1	.1	.1
Tour	.1	.1	.1
Water park	.1	-	-

Braai/ picnic	-	.2	-
Business	-	-	.1

The Table below shows the main activities respondents participated in or planned to participate in during their visit to the location other than coastal and marine activities. The main activities identified were adventure (52.3%), food and wine (35.2%) and shopping (22.1%). Other activities were business (12.1%), nightlife (9.5%), sport (6.6%), visiting natural attractions/wildlife that were not coastal/ marine (6.4%), visiting a casino (5.7%) and theme parks (5.4%). Other responses were less than five percent.

Table 11: Main activities respondent intends participating in/have participated in during visit to location other than coastal and marine activities (n=3031): Multiple responses

	Frequency	Percentage
Shopping	669	22.1
Business	367	12.1
Adventure	1585	52.3
Medical/health	15	.5
Nightlife	287	9.5
Sport	201	6.6
Visited a casino	174	5.7
Social (VFR)	663	21.9
Food and wine	1067	35.2
Theme Parks	165	5.4
Cultural/heritage	415	13.7
Conference	69	2.3
Shows performances	41	1.4
Visiting natural attractions/ wildlife that were not coastal/ marine	195	6.4
Other (relaxation, prayer/spiritual, walking, educational tour, etc.)	98	3.3

The average number of times that respondents previously participated in this/these type/s of coastal and marine tourism activity/activities in South Africa was 12. Most of the respondents (53.4%) indicated between 1-5 times. Close to a quarter of the respondents (26.5%) stated more than ten and for 17.7% this was the first CMT activity they participated in. This suggests that CMT locations have repeat visitors and attracts new visitors.

Table 12: Number of times previously participated in this/these type/s of coastal and marine tourism activity/activities in South Africa (n=3031)

	Frequency	Percentage
No response	75	2.5
None	536	17.7
1	395	13.0
2	312	10.3

3	334	11.0
4	238	7.9
5	339	11.2
6-10	257	8.5
11-20	220	7.3
21-50	203	6.7
51-100	94	3.1
> 100	28	.9
	X = 12.0	

Almost all the respondents (98.3%) indicated that they would participate in this/these types of coastal and marine tourism activity/activities again in South Africa. This suggests high levels of satisfaction among visitors with CMT activities and experiences.

Among the 26 respondents who indicated that they would not participate in this/these types of coastal and marine tourism activity/activities again in South Africa, the main reasons were associated with the conditions of the location (especially litter, lack of facilities and overcrowding), safety considerations and distance from home to beach locations in South Africa.

Table 13: If respondent would participate in this/these types of coastal and marine tourism activity/activities again in South Africa (n=3031)

	Frequency	Percentage
No response	25	.8
Yes	2980	98.3
No	26	.9

The satisfaction with their CMT experience was further reflected with 90.2% of the respondents indicating that they would advise friends, relatives or colleagues to participate in this/these type/s of coastal and marine tourism activity/activities again in South Africa. Only 1.2% stated that they would not and 8.3% indicated possibly.

Table 14: If respondent would advise friends, relatives or colleagues to participate in this/these type/s of coastal and marine tourism activity/activities in South Africa (n=3031)

	Frequency	Percentage
No response	8	.3
Yes, definitely	2735	90.2
Possibly	251	8.3
No, definitely not	37	1.2

7.1.3. Consumer expenditure behaviour

The average group size was 2.9. Close to half of the immediate group size was 1 (24.3%) and 2 (24.9%). Some of the respondents (8.4%) travelled alone.

Table 15: Number of persons accompanying respondent who are paying for or spending money together as a group (that is, immediate group size) who are also participating in the coastal and marine tourism activity (n=3031)

	Frequency	Percentage
No response	3	.1
None	256	8.4
1	738	24.3
2	756	24.9
3	397	13.1
4	375	12.4
5	210	6.9
6-10	213	7.0
> 10	83	2.7
	X = 2.9	

The Table below summarises the findings in relation to spend patterns among respondents in relation to specific categories. The average payment for CMT products/activities was R305 with 72.4% of the respondents stating none. The average payment for Food and drinks was R1 529 with 8.3% of the respondents stating none. The average payment for CMT activity merchandise was R150 with 81.2% of the respondents stating none. The average payment for shopping was R880 with 57.2% of the respondents stating none. The average payment for transportation within coastal/marine location was R387 with 54.4% of the respondents stating none. The average payment for transportation during visit, including airfares and travel within South Africa only for tourists was R9 451 with 47.3% of the respondents stating none. The average payment for accommodation at coastal/marine locations only for tourists only was R2 462 with 66.9% of the respondents stating none. The average payment for accommodation outside coastal/marine locations for tourists only was R5 489 with 73.3% of the respondents stating none. The average payment for other was R481 with 77.4% of the respondents stating none. The average total overall payment was R24 758 with only 2.7% of the respondents stating none. These figures are central for the economic modelling component of the project.

The results indicate that most respondents spent on food and drinks and travel. The highest average spend by tourists was for travel and accommodation during visit to South Africa. Shopping as well as food and drinks also had relatively high average spend.

Table 16: Amount (in Rands) that respondent spent or will spend (inclusive of the immediate group you are spending money for) in relation to participating in coastal and marine tourism activities during the visit at the coastal/ marine location where the interview was conducted (n=3031, in %)

	P/A	F&D	Mer	S	TL	TV	AL	AO	O	TOTAL
No response/ cannot recall	8.0	16.6	6.8	15.7	11.8	9.2	7.4	6.4	6.4	.2
None	72.4	8.3	81.2	57.2	54.4	47.3	66.9	73.3	77.4	2.7
< 250	4.3	16.2	3.6	4.9	18.2	2.9	.7	.2	3.0	7.3
250-500	4.5	20.1	3.6	5.8	7.0	4.1	1.0	.4	3.8	11.7
501-750	1.9	8.2	1.0	1.1	1.5	2.2	1.0	.1	.8	5.4
751-1000	1.9	8.3	1.2	4.2	3.1	4.7	1.3	.4	2.0	6.4
1001-1500	1.7	5.5	.6	1.3	1.2	2.8	1.9	.9	1.1	5.9
1501-2000	1.5	3.9	.9	2.9	1.1	2.7	1.6	1.3	1.8	4.6
2001-2500	.5	2.2	.2	.9	.3	1.6	1.5	.4	.5	2.8
2501-3000	1.2	3.2	.1	1.3	.4	2.0	1.9	1.0	1.0	3.3
3001-4000	.7	2.1	.1	.3	.3	2.0	1.9	1.2	.3	3.9
4001-5000	.9	2.4	.1	1.3	.2	1.4	1.4	1.2	.6	3.5
> 5000	.5	4.8	.7	2.1	.6	17.1	11.5	13.3	1.2	42.4
Average (Rands)	**305**	**1529**	**150**	**880**	**387**	**9451**	**2462**	**5489**	**481**	**24758**

Codes:
P/A: Payment for CMT products/activities (e.g. whale watching, shark diving, turtle tours, boat-based fishing)
F&D: Food and drinks
Mer: CMT activity merchandise
S: Shopping
TL: Transportation within coastal marine location
TV: Transportation during visit, including airfares and travel within South Africa only (for tourists only)
AL: Accommodation at coastal/marine locations only (for tourists only)
AO: Accommodation outside coastal/marine locations (for tourists only)
O: Other (e.g. entertainment, visits to attractions)
TOTAL: Overall total estimate

The majority of the respondents stated that their primary reason for visiting the CMT location where the interview was held was participation in coastal and marine tourism activity in the beach/coastal location (36.9%) or holidays (38.1%). Respondents also identified visiting friends and relatives (10.1%), business (9.8%) and shopping (1.55). A few (3.5%) provided other responses which included attending conferences, parties, meals with friends and/ or families, cycling and walking.

Table 17: Primary/main reason for visiting location where the coastal or marine activity respondent is participating in is taking place (n=3031)

	Frequency	Percentage
No response	4	.1
Participation in coastal and marine tourism activity in this beach/ coastal location	1118	36.9
Holiday	1156	38.1
Business	297	9.8
Visiting friends and relatives (VFR)	305	10.1
Shopping	45	1.5
Other	106	3.5

The average length of stay among overnight visitors from out of town/city in the coastal town/city where interview was conducted in paid accommodation was 4.4 nights. Most of the overnight respondents stated 1-2 and 3-4 nights.

Table 18: If an overnight visitor from out of town/ city, number of nights respondent did/will spend during visit to the coastal town/ city interview is being conducted in paid accommodation (excludes VFR) (n=3031)

	Frequency	Percentage
No response/ not applicable	1853	61.1
1-2	422	13.9
3-4	425	14.0
5-10	252	8.3
11-20	51	1.7
21-50	25	.8
> 50	3	.1
	X = 4.4	

The average length of stay among overnight visitors in South Africa outside the coastal town/city where interview was conducted in paid accommodation was 8.8 nights. Most of the overnight respondents stated 3-4 and 5-10 nights. The average number of nights stayed in other areas in South Africa was twice that as the number of nights in the location where the interview was held. It is important to note, however, that the research did not examine the proportion of stay that was in other beach locations in South Africa.

Table 19: If an overnight visitor from out of town/ city, number of nights respondent did/will spend during this visit outside the town/ city but within South Africa (n=3031)

	Frequency	Percentage
No response/ not applicable	1907	62.9
1-2	240	7.9
3-4	316	10.4
5-10	325	10.7
11-20	172	5.7
21-50	50	1.6
> 50	21	.7
	X = 8.8	

The main mode of transportation respondents used to travel from their place of accommodation or residence to the CMT location where the interviews were conducted were private vehicles (42.2%), rental vehicles (18.9%) and walked (16.6%). Other responses were metered taxi (11.3%), minibus taxi (9.4%) and buses (8.4%). A few respondents also stated bicycled, flight, shuttle and train.

Table 20: Mode of transportation from place of residence/accommodation to beach location on day of interview (n=3031)

	Frequency	Percentage
Private vehicle	1279	42.2
Rental vehicle	574	18.9
Metered taxi (eg. Uber)	342	11.3
Minibus taxi	284	9.4
Bus	255	8.4
Walked	504	16.6
Bicycle	8	.2
Flight	4	.1
Shuttle	2	.1
Train	11	.4

7.1.4. Rating of experience

Respondents were asked to rate their experience with various elements of the coastal and marine location where they were interviewed. The responses resonate with the satisfaction with the CMT experiences as noted earlier. Specifically, a substantial majority agreed or strongly agreed that:

- The location is well maintained (81.6%)
- Signage to the location was clear (73.6%)
- Good refreshment areas/food variety (70.2%)

Slightly fewer respondents agreed or strongly agreed with the following statements:

- Parking is adequate (61.5%)
- This is a green location that encourages responsible environmental practices (61.2%)
- Sufficient facilities and amenities (57.4%)
- Safe location (49.9%) – only statement to have less than 50%

Table 21: Level of agreement with specific statements about coastal and marine location (not town/ city as a whole) (n=3031, in %)
KEY: NR – No response 1 - strongly disagree 2 - disagree 3 - neutral 4 - agree 5 - strongly agree

STATEMENT	NR	1	2	3	4	5	Average
Well maintained location	.1	2.5	5.5	10.2	40.9	40.7	**4.1**
Parking is adequate	.1	7.3	11.6	19.5	34.8	26.7	**3.6**
Sufficient facilities and amenities (e.g. toilets)	.2	8.3	14.2	19.8	27.6	29.8	**3.6**
Good refreshment areas/food variety	.3	6.2	10.4	12.9	38.1	32.1	**3.8**
This is a green location that encourages responsible environmental practices (e.g. recycling)	.3	2.5	9.5	26.4	30.1	31.1	**3.8**
Signage to location was clear	.1	3.2	7.8	15.3	42.4	31.2	**3.9**
Safe location	.1	3.9	8.6	15.1	38.9	33.3	**3.9**
Entertainment opportunities available in the location	.2	6.7	12.5	18.1	34.4	28.1	**3.7**
Location is too crowded	.1	16.5	19.4	14.1	21.1	28.8	**3.3**

7.2. Supply-side stakeholder survey results (accommodation, retail and restaurants, cmt businesses and tour operators)

7.2.1. Profile of Stakeholder

In this section, aspects related to profiles of a specific stakeholder are discussed first followed by a comparative analysis of aspects that relate to more than one stakeholder.

Accommodation

The Table below indicates that most of the accommodation surveys were undertaken at bed and breakfast (38.4%), self-catering (28%) and guesthouse (20.8%) establishments. Some were hotels: 5.6% at 1-3 Star and 9.6% at 4-5 Star hotels. A few also indicated resorts (4%), private rentals such as Air BnB facilities (3.2%), backpackers (2.4%) and one respondent stated a lodge. If should be noted that numerous hotels were approached to participate but did not do so since persons did not know who in the organisation is permitted to provide the information. This is often a challenge when dealing with larger establishments' participation in these types of study.

Table 22: Type of accommodation establishment (n=125): Multiple responses

	Frequency	Percentage
1-3 Star hotel	7	5.6
4-5 Star hotel	12	9.6
Bed and breakfast (not Air BnB)	48	38.4
Guesthouse	26	20.8
Self-catering (excluding private rentals)	35	28.0
Private rentals (e.g. Air BnB)	4	3.2

Resorts	5	4.0
Lodges	1	.8
Backpackers	3	2.4

Restaurant and retail

The main types of services the restaurant and retail establishments interviewed provided were restaurants (food and beverages) (72%), arts and crafts (15.2%) and clothing apparel (10.4%). Two respondents indicated surf shops and one stated watersport equipment/ apparel.

Table 23: Type of services restaurant and retail establishments provide (n=125): Multiple responses

	Frequency	Percentage
Restaurant (food and beverages)	90	72.0
Clothing apparel	13	10.4
Arts and crafts	19	15.2
Surf shops	2	1.6
Watersport equipment/ apparel	1	.8

At the restaurants and retail establishments were the interviews were held, additionally up to 5 patrons/customers were interviewed. This was to establish whether the CMT location influenced their visit to the specific restaurant and retail establishments as well as their interest in CMT activities. The Table below indicates that the top two main reasons were coastal and marine activities and facilities in the area (34.9%) and vacation at a beach destination (24%). This suggests that more than half of the respondents were attracted to the beach location.

Table 24: Main/primary reason for visiting location (n=608): Multiple responses

	Frequency	Percentage
No response	2	.3
The coastal and marine activities and facilities in the area	212	34.9
Vacation at a beach destination	146	24.0
Vacation but not because of beach destination	54	8.9
Business	65	10.7
Visiting friends and relatives (VFR)	93	15.3
Shopping	27	4.4
Church conference	1	.2
Dining	6	1.0
Lunch	2	.3

The Table below indicates that with the exception of 5.8% of the respondents who stated that they did not and would not participate in coastal and marine activities at the location, the rest identified various activities. The main activities identified pure recreational activities (63%), sand/beach recreational activities (58.7%), sightseeing (18.9%), water sport (14.3%) and ocean experience (10.4%).

Table 25: Types of coastal and marine activities restaurant and retail establishment did or would participate in (n=606): Multiple responses

	Frequency	Percentage
None	35	5.8
Wildlife tourism (e.g. whale watching, turtle tours, seals, dolphins)	59	9.7
Recreational fishing (e.g. boat-based fishing, spear fishing, fishing competitions)	42	6.9
Scuba diving/snorkelling (e.g. shark cage diving)	25	4.1
Water sports (e.g. big wave surfing, stand up paddle boarding, yachting, water skiing, water/kite surfing)	87	14.3
Ocean experience (e.g. cruise tourism, marinas, island tourism, shipwreck diving)	63	10.4
Events (e.g. marine festivals and marine competitions such as yacht races or regattas, fishing competitions)	15	2.5
Sand/beach recreational activities (e.g. swimming, walking or running, kite-flying, beach combing, sand dune surfing)	363	59.7
Coastal heritage activities (e.g. local seafood and cultural tourism, cultural history)	43	7.1
Sightseeing (e.g. light house tourism, cycling, marathons)	115	18.9
Educational and scientific excursions (e.g. aquariums)	35	5.8
Spiritual experience	26	4.3
Pure recreational (e,g., dining out, shopping)	383	63.0
uShaka Marine World	6	1.0

Tour Operator

The tours operators interviewed provided a range of services. The main services provided were guided tours (83.3%) and transport services (48.5%). One respondent each also identified boat cruise, inbound and outbound tours, ocean charter and themed party.

Table 26: Type of tour operator services provided (n=66): Multiple responses

	Frequency	Percentage
Transport services	32	48.5
Guided tours	55	83.3
Boat Cruise	1	1.5
Inbound and Outbound Tours	1	1.5

Ocean Charter	1	1.5
Themed Party	1	1.5

The tour operators interviewed also provided best descriptions of the tours/transport services provided by the tour company to establish the extent of CMT services. More than half of the respondents (56.1%) indicated both activities and interest groups related to and not related to coastal and marine activities followed by primary coastal and marine related activity and interest groups (36/4%). Only 6.1% stated primary activity and interest groups not related to coastal and marine activities and one did not respond. The results indicate that a mong the tour operators interviewed CMT products and services are central to their business. This is understandable since in the absence of a database, tour operators were interviewed at CMT locations.

Table 27: Product descriptions of the main tours/transport services provided by the tour company (n=66)

	Frequency	Percentage
No response	1	1.5
Primary coastal and marine related activity and interest groups	24	36.4
Primary activity and interest groups not related to coastal and marine activities	4	6.1
Both activities and interest groups related to and not related to coastal and marine activities (first two options above combined)	37	56.1

CMT business

Most CMT businesses interviewed were PTY LTD (47.9%), CC (26.6%) and Sole Proprietor (23.4%) companies. One respondent each stated NOP and Section 21 companies.

Table 28: Type of CMT organisation/ business (n=94)

	Frequency	Percentage
Non-Profit Organisation (NPO)	1	1.1
Section 21	1	1.1
Closed Corporation (CC)	25	26.6
Sole Proprietor	22	23.4
Proprietary Limited (PTY LTD)	45	47.9

In terms of the CMT business/company's Broad-based Black Economic Empowerment (BBBEE) status, indicated in the Table below, 43.6% stated that they were non-compliant with a further 36.2% indicating that they did not know. Among those who did respond, most were Level 4, with two each being Levels 1, 2, 3 and 5. One respondent each indicated Levels 6 and 7. The results show that most SMT businesses

have not been able to meet BBBEE compliance requirements.

Table 29: CMT business/company's Broad-based Black Economic Empowerment (BBBEE) status (n=94)

	Frequency	Percentage
Don't know	34	36.2
Level 1	2	2.1
Level 2	2	2.1
Level 3	2	2.1
Level 4	9	9.6
Level 5	2	2.1
Level 6	1	1.1
Level 7	1	1.1
Non-compliant	41	43.6

The Table below indicates that the main types of coastal and marine activities that the CMT business/company were involved in were water sports (43.6%), sightseeing (30.9%), ocean experience (23.4%) and sand/beach recreational activities (20.2%). Ten to 20% of the respondents stated scuba diving/ snorkelling and recreational fishing. Less than 10% of the respondents indicated educational and scientific excursions, events and pure recreational.

Table 30: Types of coastal and marine activities CMT business/company involved in (n=94): Multiple responses

	Frequency	Percentage
Wildlife tourism (e.g. whale watching, turtle tours, seals, dolphins)	11	11.7
Recreational fishing (e.g. boat-based fishing, spear fishing, fishing competitions)	12	12.8
Scuba diving/snorkelling (e.g. shark cage diving)	17	18.1
Water sports (e.g. big wave surfing, stand up paddle boarding, yachting, water skiing, water/kite surfing)	41	43.6
Ocean experience (e.g. cruise tourism, marinas, island tourism, shipwreck diving)	22	23.4
Events (e.g. marine festivals and marine competitions such as yacht races or regattas, fishing competitions)	7	7.4
Sand/beach recreational activities (e.g. swimming, walking or running, kite-flying, beach combing, sand dune surfing)	19	20.2
Coastal heritage activities (e.g. local seafood and cultural tourism, cultural history)	5	5.3
Sightseeing (e.g. light house tourism, cycling, marathons)	29	30.9
Educational and scientific excursions (e.g. aquariums)	9	9.6
Pure recreational (e,g., dining out, shopping)	6	6.4

All

In terms of the number of years the businesses were in operation, the Table below indicates that the highest average number of years was for the tour operator stakeholders (13.4) followed by restaurants and retail establishments 12.3), accommodation (11.4) and CMT businesses (10.2). Most of the respondents for all stakeholder groups stated 10 years or more: 69.8% for tour operators, 60.8% for restaurants and retail, 52% for accommodation and 50% for CMT businesses.

Table 31: Number of years in operation (in %)

	Accommodation (n=125)	Restaurants and retail (n=125)	CMT Businesses (n=96)	Tour Operators (n=66)
No response/ Don't know	.8	-	1.1	-
< 5	11.2	12.0	17.0	6.1
5-9	36.0	27.2	31.9	24.2
10-14	27.2	29.6	28.7	28.8
15-20	13.6	19.2	12.8	25.8
> 20	11.2	12.0	8.5	15.2
Average	**11.4**	**12.3**	**10.2**	**13.4**

CMT businesses were also asked the number of years they were involved in CMT activities specifically. The average (8.8) was slightly lower than the average for the business being operational. This suggests that some of the businesses may start with other tourism products and services before being exposed to CMT related products and services.

Table 32: Number of years CMT business is involved in CMT activities specifically (n=94)

	Frequency	Percentage
1-2	7	7.4
3-4	13	13.8
5-9	36	38.3
10-19	34	36.2
20-49	4	4.3
	X = 8.6	

Restaurants and retail as well as CMT businesses were also asked about the number of businesses/branches in different locations in addition to where the interview is being conducted. The average for the restaurant and retail was 20.4 compared to 1.6 for the CMT businesses. Most

respondents indicated none (44.8% for restaurants and retail as well as 57.4% for tour operators) or 1-2 (23.2% for restaurants and retail as well as 33% for tour operators). This suggests that for most this was the only business they operated. The high average for the restaurant and retail establishments could be attributed to very high figures among a few respondents (3.2%) who indicated more than 100. It is possible that the respondents were referring to the number of franchises (for example, KFCs in the country) rather than the number that one owner had despite this being raised during the fieldworker training.

Table 33: Number of other businesses/branches in different locations in addition to where the interview is being conducted (in %)

	Restaurants and retail (n=125)	CMT Businesses (n=96)
None	44.8	57.4
1-2	23.2	33.0
3-4	17.6	4.3
5-9	4.8	1.1
10-19	3.2	3.2
20-49	1.6	-
50-100	1.6	.1
> 100	3.2	-
Average	**20.4**	**1.6**

7.2.2. Occupancy rates, income and expenditure

Accommodation establishments had on average 29.3 rooms with 66.4% stating less than 10. This is understandable given that most of the accommodation establishments that participated in the study were bed and breakfast, self-catering and guesthouses.

Table 34: Number of rooms in accommodation establishment (n=125): Multiple responses

	Frequency	Percentage
< 10	83	66.4
10-19	20	16.0
20-49	11	8.8
50-99	15	10.4
100-500	11	8.8
> 500	1	.8

X = 29.3

The average number of persons who could be accommodated per room was 2.9 with most (67.2%) stating 1-2 persons.

Table 35: Average number of persons who could be accommodated per room in accommodation establishment (n=125): Multiple responses

	Frequency	Percentage
1-2	82	67.2
3-5	49	39.2
6-10	10	8.0
	X = 2.9	

All the demand-side stakeholders with the exception of CMT businesses were asked to identify months that they regarded as low season and high seasons. Similar patterns were noted for all groups. The high season months were January, April, June, July, September and December. The low season months were identified as February, March, May, August and October. The results coincide with the vacation periods being deemed to be high season. Almost equal proportions indicated that November was a low and high season for accommodation and restaurant and retail establishments while 77.3% of the tour operators indicated that this month was high season.

Table 36: Months regarded as high and low season (in %)

	Accommodation (n=125)		Restaurants and retail (n=125)		Tour Operators (n=66)	
	L	H	L	H	L	H
January	21.6	78.4	34.2	64.8	25.8	74.2
February	82.4	16.8	79.2	20.8	68.2	31.2
March	90.4	8.8	88.0	12.0	77.3	22.7
April	23.2	76.0	25.6	74.4	60.6	39.4
May	92.0	7.2	91.2	9.6	83.3	16.7
June	38.4	60.8	44.0	55.2	47.0	53.0
July	43.6	57.6	39.2	60.8	56.1	43.9
August	93.6	5.6	95.2	4.8	83.3	16.7
September	33.6	66.4	34.4	65.6	40.9	58.1
October	80.8	18.4	79.2	20.8	68.2	31.8
November	57.6	41.6	44.0	56.0	22.7	77.3
December	-	100	-	100	1.5	98.5

The average room occupancy during the low and high seasons in the accommodation establishments are shown in the Table below. The average room occupancy rate during the low season was 61.7% and

during the high season was 90.9%. This suggests that in the three provinces where the interviews were conducted, there was high levels of patronage in accommodation establishments that were located in close proximity to CMT areas.

Table 37: Average room occupancy rate (in %) during low and high seasons in accommodation establishment (n=125): Multiple responses

	Low Season		High Season	
	Frequency	Percentage	Frequency	Percentage
30-39	1	.8	-	-
40-49	25	20.0	1	.8
50-59	29	23.2	-	-
60-69	36	29.0	-	-
70-79	27	21.6	2	1.6
80-89	12	9.6	41	32.8
90-100	11	8.8	97	77.6
Average		**61.7**		**90.9**

The average low and high season room rates in the accommodation establishments are shown in the Table below. The average room rate during the low season was R1 557.15 and during the high season was R2 721.11.

Table 38: Average low and high season room rates in Rands, including VAT, in accommodation establishment (n=125): Multiple responses

	Low Season		High Season	
	Frequency	Percentage	Frequency	Percentage
No response/ Don't know	2	1.6	2	1.6
< 500	8	6.4	4	3.2
500-999	55	44.0	35	28.0
1000-1999	58	46.4	63	50.4
2000-4999	11	8.8	24	19.2
5000-9999	4	3.2	5	4.0
10000-15000	2	1.6	4	3.2
> 15000	1	.8	4	3.2
Average		**1557.15**		**2721.11**

The average number of nights guest stay during the low and high seasons in the accommodation establishments are shown in the Table below. The average number of nights during the low season was 14.1 and during the high season was 5.7. It is interesting to note that more respondents stated more than

10 nights stay during the low season compared to the high season. This could be attributed to costs being lower and therefore visitors being able to afford to stay longer. However, during the low season most of the respondents (94.4%) indicated 1-4 nights while the majority of the respondents (84.8%) stated 5-9 nights during the high season.

Table 39: Average number of nights guest stay during low and high seasons in accommodation establishment (n=125): Multiple responses

	Low Season		High Season	
	Frequency	Percentage	Frequency	Percentage
1-2	63	50.4	5	4.0
3-4	55	44.0	27	21.6
5-9	8	6.4	106	84.8
10-19	13	10.4	3	2.4
≥ 20	2	1.6	-	-
Average		**4.1**		**5.7**

The average number of clients during the low and high seasons in the restaurant and retail establishments and among the tour operators are shown in the Table below. The average number of clients for the restaurant and retail establishments during the low season was 6 084 and during the high season was 14 768 (more than double). The average number of clients for the tour operators during the low season was 2 512 and 5 824 during the high season (also more than double).

Table 40: Average number of clients during low and high seasons in restaurant and retail establishments and for tour operators (in %)

	Restaurant and Retail (n=125)		Tour Operators (n=66)	
	Low season	High season	Low season	High season
No response	-	-	3.0	3.0
< 500	11.2	4.0	39.4	10.6
500-1000	12.8	2.4	25.8	19.7
1001-1500	8.0	7.2	9.1	12.1
1501-2000	8.8	2.4	-	9.1
2001-2500	9.6	5.6	3.0	10.6
2501-3000	8.8	5.6	1.5	7.6
3001-3500	8.8	4.0	-	-
3501-4000	3.2	10.4	3.0	1.5
4001-5000	4.0	14.4	4.5	1.5
5001-10000	7.2	12.8	4.5	10.6
10001-20000	8.8	12.0	4.5	4.5
> 20000	8.8	19.2	1.5	9.1

	Restaurant and Retail (n=125)		Tour Operators (n=66)	
	Low season	High season	Low season	High season
Average	**6084**	**14768**	**2512**	**5824**

The average spend during the low and high seasons in the restaurant and retail establishments and among the tour operators are shown in the Table below. The average spend for the restaurant and retail establishments during the low season was R246 and during the high season was R716. The average spend for the tour operators during the low season was R1 999 and during the high season was R5 219. Again, similar to the average number of clients, the figures are more than double. The results show that there are substantial seasonality differences not only between the number of clients but also the amount that each client spent.

Table 41: Average spend during low and high season in restaurant and retail establishment and for tour operators: Multiple responses

	Restaurant and Retail (n=125)		Tour Operators (n=66)	
	Low season	High season	Low season	High season
No response/ Don't know	-	-	1.5	1.5
< 50	6.4	.8	-	-
50-100	32.0	7.2	1.5	-
101-200	26.4	20.8	1.5	1.5
201-500	24.0	36.8	10.6	13.6
501-1000	8.8	16.8	27.3	-
1001-1500	.8	8.0	22.7	9.1
> 1500	1.6	9.6	34.8	74.2
Average	**246**	**716**	**1999**	**5219**

In terms of the total income/revenue generated by the establishments during the last year, the averages was highest for tour operators (R5 171 085) followed by R4 461 77 for accommodation, R3 192 500 for restaurants and retail and R2 561 585 for CMT businesses. More than half of the respondents for all types of stakeholders interviews indicated more than R1 000 000.

Table 42: Total income/revenue (in Rands) generated by the establishment during the last year (in %)

	Accommodation (n=125)	Restaurants and retail (n=125)	CMT Businesses (n=96)	Tour Operators (n=66)
No response/ Don't know	8.8	4.0	12.8	28.8
< R100 000	1.6	-	-	-
R100 000 – R250 000	-	2.4	-	-

	Accommodation (n=125)	Restaurants and retail (n=125)	CMT Businesses (n=96)	Tour Operators (n=66)
R250 001 – R500 000	7.2	6.4	5.3	1.5
R500 001 – R750 000	6.4	14.4	9.6	1.5
R750 001 – R1 000 000	23.2	13.6	11.7	10.6
> R1 000 000	52.8	59.2	60.6	57.6
Average	**4461711**	**3192500**	**2561585**	**5171085**

CMT businesses were also asked about their average annual income for the last year for CMT activities only. The average was R1 246 629 (close to half of the overall income indicated in the Table above). This indicates that a large proportion of CMT business income is derived from other products and services on offer. Most respondents (73.4%) indicated more than R500 000 per annum.

Table 43: Average annual income (in Rands) for last year for CMT business/company for CMT activities only (n=96)

	Frequency	Percentage
No response/ Don't know	5	5.3
< R100 000		
R100 000 – R250 000	5	5.3
R250 001 – R500 000	15	16.0
R500 001 – R750 000	22	23.4
R750 001 – R1 000 000	23	24.5
> R1 000 000	24	25.5

X = 1246629

Restaurant and retail as well as tour operator establishments were also asked the amount of the total profit generated by the establishment during the last year. Tour operators had a higher average of R2 265 698 compared to R1 675 127 for restaurant and retail establishments.

Table 44: Total profit (in Rands) generated by the establishment during the last year (in %)

	Restaurants and retail (n=125)	Tour Operators (n=66)
No response/ Don't know	5.6	34.8
< R100 000	4.8	-
R100 000 – R250 000	16.0	9.1
R250 001 – R500 000	24.8	12.1
R500 001 – R750 000	9.6	4.5
R750 001 – R1 000 000	13.6	13.6
> R1 000 000	25.6	25.8
Average	**1675127**	**2265698**

CMT business were also asked about their total average expenditure for the last year for the CMT business/company. The average was R1 443 294. Most respondents (74.4%) indicated more than R500 000 per annum.

Table 45: Total average expenditure for CMT business during the last year (n=96)

	Frequency	Percentage
No response/ Don't know	9	9.6
< R100 000		
R100 000 – R250 000	4	4.3
R250 001 – R500 000	11	11.7
R500 001 – R750 000	16	17.0
R750 001 – R1 000 000	16	17.0
> R1 000 000	38	40.4

X = 1443294

All the stakeholder establishments were also asked to indicate their total expenditure in specific stakeholder categories, namely, capital, salaries and wages, advertising and marketing, transport and other expenditure for the last year. In terms of capital expenditure, the highest average in this category was R357 454 for accommodation, R345 630 for tour operators, CMT businesses (R300 035) and R229 706 for restaurants and retail. Some differences among the stakeholders are noted with 54.4% of accommodation establishments stating less than R100 000 and 22.4% indicating none. Among the rest of the respondents, most indicated less than R100 000 to R500 000: 76% for restaurants and retail, 68.2% for tour operators and 60.7% for CMT businesses.

Table 46: Average capital (e.g. facilities, equipment, infrastructure, etc.) expenditure for the last year (in %)

	Accommodation (n=125)	Restaurants and retail (n=125)	CMT Businesses (n=96)	Tour Operators (n=66)
No response/ Don't know	13.6	12.8	9.6	18.2
None	22.4	-	11.7	-
< R100 000	36.0	41.6	33.0	28.8
R100 000 – R250 000	18.4	22.4	14.9	19.7
R250 001 – R500 000	3.2	12.0	12.8	19.7
R500 001 – R750 000	2.4	6.4	5.3	4.5
R750 001 – R1 000 000	-	3.2	8.5	6.1
> R1 000 000	4.0	1.6	4.3	3.0
Average	**357454**	**229706**	**300035**	**345630**

In terms of expenditure on salaries and wages, the highest average in this category was for R1 549 107 for tour operators, R1 095 800 for accommodation, R965 627 for restaurants and retail and R941 453 for CMT businesses.

Table 47: Average salaries and wages expenditure for the last year (in %)

	Accommodation (n=125)	Restaurants and retail (n=125)	CMT Businesses (n=96)	Tour Operators (n=66)
No response/ Don't know	12.0	5.6	8.5	15.2
None	-			-
< R100 000	-	4.0	-	-
R100 000 – R250 000	12.8	13.6	7.4	3.0
R250 001 – R500 000	27.2	22.4	18.1	7.6
R500 001 – R750 000	15.2	8.0	19.1	12.1
R750 001 – R1 000 000	17.6	30.4	27.7	31.8
> R1 000 000	15.2	16.0	19.1	30.3
Average	**1095800**	**965627**	**941453**	**1549107**

In terms of expenditure on advertising and marketing, the highest average in this category was R107 301 for tour operators, R75 844 for accommodation, R59 265 630 for restaurants and retail and R36 507 for CMT businesses. Most respondents for all stakeholder groups stated less than R100 000 to R250 000: 79.2% for restaurants and retail, 74.4% for CMT businesses, 74.3% for tour operators and 68.8% for accommodation.

Table 48: Average advertising and marketing (including media and broadcasting costs) expenditure for the last year (in %)

	Accommodation (n=125)	Restaurants and retail (n=125)	CMT Businesses (n=96)	Tour Operators (n=66)
No response/ Don't know	15.2	10.0	24.5	19.7
None	11.2		1.1	-
< R100 000	58.4	63.2	67.0	59.1
R100 000 – R250 000	10.4	16.0	7.4	15.2
R250 001 – R500 000	3.2	.8	-	3.0
R500 001 – R750 000	-			-
R750 001 – R1 000 000	.8	-	-	3.0
> R1 000 000	.8	-	-	-
Average	**75844**	**59265**	**36507**	**107301**

In terms of transport expenditure, the highest average in this category was R180 643 for tour operators, R43 483 for restaurants and retail, R37 524 for accommodation and R31 023 for CMT businesses. Some differences are noted. Specifically, among accommodation establishments 36.8% stated none and 36% for less than less than R100 000. Among tour operators most (61.6%) stated less than R100 000 to R250 0000. For both restaurants and retail as well as CMT businesses, slightly more than half of the respondents did not respond or did not know while most of the rest stated less than R100 000 to R250 000.

Table 49: Average transport expenditure for the last year (in %)

	Accommodation (n=125)	Restaurants and retail (n=125)	CMT Businesses (n=96)	Tour Operators (n=66)
No response/ Don't know	17.6	53.6	55.3	15.2
None	36.8	-	5.3	9.1
< R100 000	36.0	42.4	37.2	40.9
R100 000 – R250 000	8.0	4.0	2.1	19.7
R250 001 – R500 000	.8	-	-	7.6
R750 001 – R1 000 000	.8	-	-	4.5
> R1 000 000	-	-		3.0
Average	**37524**	**43483**	**31023**	**180643**

In terms of other expenditure, the highest average in this category was R200 583 for CMT businesses, R179 500 for tour operators, R119 257 for accommodation and R118 667 for restaurants and retail. Most did not respond, stated none or that they did not know: 94.4% for accommodation, 92.8% for restaurants and retail, 87.2% for CMT businesses and 87.2% for tour operators.

Table 50: Average other expenditure for the last year (in %)

	Accommodation (n=125)	Restaurants and retail (n=125)	CMT Businesses (n=96)	Tour Operators (n=66)
No response/ Don't know/ None	94.4	92.8	87.2	87.8
< R100 000	3.2	4.8	6.4	4.5
R100 000 – R250 000	1.6	.8	2.1	1.5
R250 001 – R500 000	.8	1.6	3.2	6.1
R750 001 – R1 000 000	-	-	1.1	-
Average	**119257**	**118667**	**200583**	**179500**

Tour operators were also asked if they perceived a change in the demand for CMT products/experiences in the last 5 years. Most (86.4%) indicated an increase while 13.6% stated that there was no change. This response suggests that tour operators generally felt that their businesses were growing and not in a decline.

Table 51: If tour operators perceive a change in the demand for CMT products/experiences in the last 5 years (n=66)

	Frequency	Percentage
Increase	57	86.4
No change	9	13.6

7.2.3. Service providers/suppliers

The average number of service providers were highest for restaurants and retail (4.1) followed by tour operators (3.9) and accommodation establishments (3). The lowest average was for CMT businesses (1.9). Variations were also noted. In terms of respondents who stated none, the highest was for accommodation (35.2%) followed by CMT businesses (19.1%) and restaurants and retail (12%). Only 1.5% of the tour operators stated none. Among those who used service providers, most among all stakeholders stated less than 5 to 9.

Table 52: Number of service providers used during the last year (in %)

	Accommodation (n=125)	Restaurants and retail (n=125)	CMT Businesses (n=96)	Tour Operators (n=66)
Don't know/ can't recall	12.0	14.4	12.8	12.1
None	35.2	12.0	19.1	1.5
< 5	32.0	46.4	62.8	57.6
5-9	12.8	18.4	5.3	24.2
10-14	4.0	5.6	-	1.5
15-20	4.0	1.6	-	3.0
> 20	-	1.6	-	-
Average	**3.0**	**4.1**	**1.9**	**3.9**

The Table below indicates the number of service providers who were locally-based. The highest average was 3.8 for restaurants and retail followed by 3.3 for accommodation, 2.5 for tour operators and 2 for CMT businesses. Among all the stakeholders who used service providers, most were locally-based which indicates support for local businesses which is a key component of the transformation agenda.

Table 53: Number of service providers used who were locally-based, that is, in the city/ area where business is located (in %)

	Accommodation (n=125)	Restaurants and retail (n=125)	CMT Businesses (n=96)	Tour Operators (n=66)
Don't know/ can't recall/ not applicable/ none	56.8	39.2	34.0	21.2
< 5	34.4	44.0	66.0	72.7
5-9	6.4	11.2	-	6.1
10-14	.8	4.0	-	-
15-20	1.6	-	-	-
> 20	-	1.6	-	-
Average	**3.3**	**3.8**	**2.0**	**2.5**

The Table below indicates the number of service providers who were black-owned. The highest average was 3.5 for restaurants and retail followed by 1.7 for accommodation, 1.3 for CMT businesses and 0.8 for tour operators. Among all the stakeholders who used service providers, it is of concern that very few were identified as being black-owned.

Table 54: Number of service providers used who were black-owned (in %)

	Accommodation (n=125)	Restaurants and retail (n=125)	CMT Businesses (n=96)	Tour Operators (n=66)
Don't know/ can't recall/ not applicable/ none	72.0	70.4	79.8	69.7
< 5	24.8	22.4	20.2	30.3
5-9	2.4	5.6	-	-
10-14	.8	.8	-	-
15-20	-	.8	-	-
Average	**1.7**	**3.5**	**1.3**	**.8**

The Table below indicates the number of service providers who were female. The highest average was 1.8 for restaurants and retail followed by 1.3 for accommodation, 1.1 for CMT businesses and 0.9 for tour operators. Among all the stakeholders who used service providers, similar trends to black ownership was noted, that is, very few were identified as being female.

Table 55: Number of service providers used who were female (in %)

	Accommodation (n=125)	Restaurants and retail (n=125)	CMT Businesses (n=96)	Tour Operators (n=66)
Don't know/ can't recall/ not applicable/ none	78.4	73.6	78.7	65.2
< 5	20.8	25.6	21.3	34.8
5-9	4.8	-	-	-
10-14	-	.8	-	-
Average	**1.3**	**1.8**	**1.1**	**.9**

In terms of the business/ company's overall average amount paid to service providers for the last year, the highest average was R302 984 for tour operators, R292 842 for restaurants and retail, R254 956 for accommodation and R243 054 for CMT businesses. Some differences are noted. Specifically, among accommodation establishments 35.2% stated less than R100 000 to R250 000. For the rest, most indicated less than R100 000 to R500 000.

Table 56: Business/company's overall average amount paid to service providers for the last year (in %)

	Accommodation (n=125)	Restaurants and retail (n=125)	CMT Businesses (n=96)	Tour Operators (n=66)
No response/ Don't know/ Not applicable	45.6	24.0	21.3	6.1
< R100 000	19.2	20.0	22.3	25.8
R100 000 – R250 000	16.0	27.2	31.9	34.8
R250 001 – R500 000	8.8	19.2	16.0	15.2
R500 001 – R750 000	6.4	1.6	5.3	9.1
R750 001 – R1 000 000	3.2	5.6	2.1	7.6
> R1 000 000	.8	2.4	1.1	1.5
Average	**254956**	**292842**	**243054**	**302984**

7.2.4. Employment

Employment trends were examined in relation to the number of permanent and temporary/casual persons employed in the business. For accommodation and restaurant and retail establishments the employment rates were confined only to the businesses were the interview was held and not all the establishments owned. Information for the permanent and temporary/casual categories were further disaggregated by gender, population group and where employees came from.

The Table below indicates that, with the exception of tour operators, the rest of the stakeholder groups employed more permanent staff than temporary/casual employees. The highest average for permanent staff was for accommodation establishments (11.4) followed by restaurants and retail establishments (8.7), tour operators (8.3) and CMT businesses (4.7). The highest average for temporary/casual staff was for tour operators (8.7) followed by accommodation establishments (8.1), restaurants and retail establishments (7.8) and CMT businesses (3.6). The results show that accommodation establishments employed the most staff and CMT businesses the least. Most businesses employed less than 5 to 9 employees. It was noticed that more respondents from larger establishments could not provide employee information and/or disaggregate the information provided.

Table 57: Number of permanent (P) and temporary/casual (T) staff employed (in %)

Number	Accommodation (n=125)		Restaurants and retail (n=125)		CMT Businesses (n=96)		Tour Operators (n=66)	
	P	T	P	T	P	T	P	T
< 5	59.2	48.8	43.2	32.0	62.8	44.7	39.4	21.2
5-9	24.0	5.6	28.8	17.6	25.5	6.4	28.8	15.2
10-19	5.6	6.4	12.8	15.2	10.6	3.2	22.7	15.2
20-49	5.6	8.8	9.6	4.0	1.1	2.1	7.6	6.1
50-100	4.0	-	1.6	.8	-	-	-	-
> 100	.8	.8	-	-	-	-	-	-
None	-	8.8	-	1.6	-	3.2	-	-
NR/NA	.8	20.8	4.0	28.8	-	40.4	1.5	42.4
AVERAGE	**11.4**	**8.1**	**8.7**	**7.8**	**4.7**	**3.6**	**8.3**	**8.7**

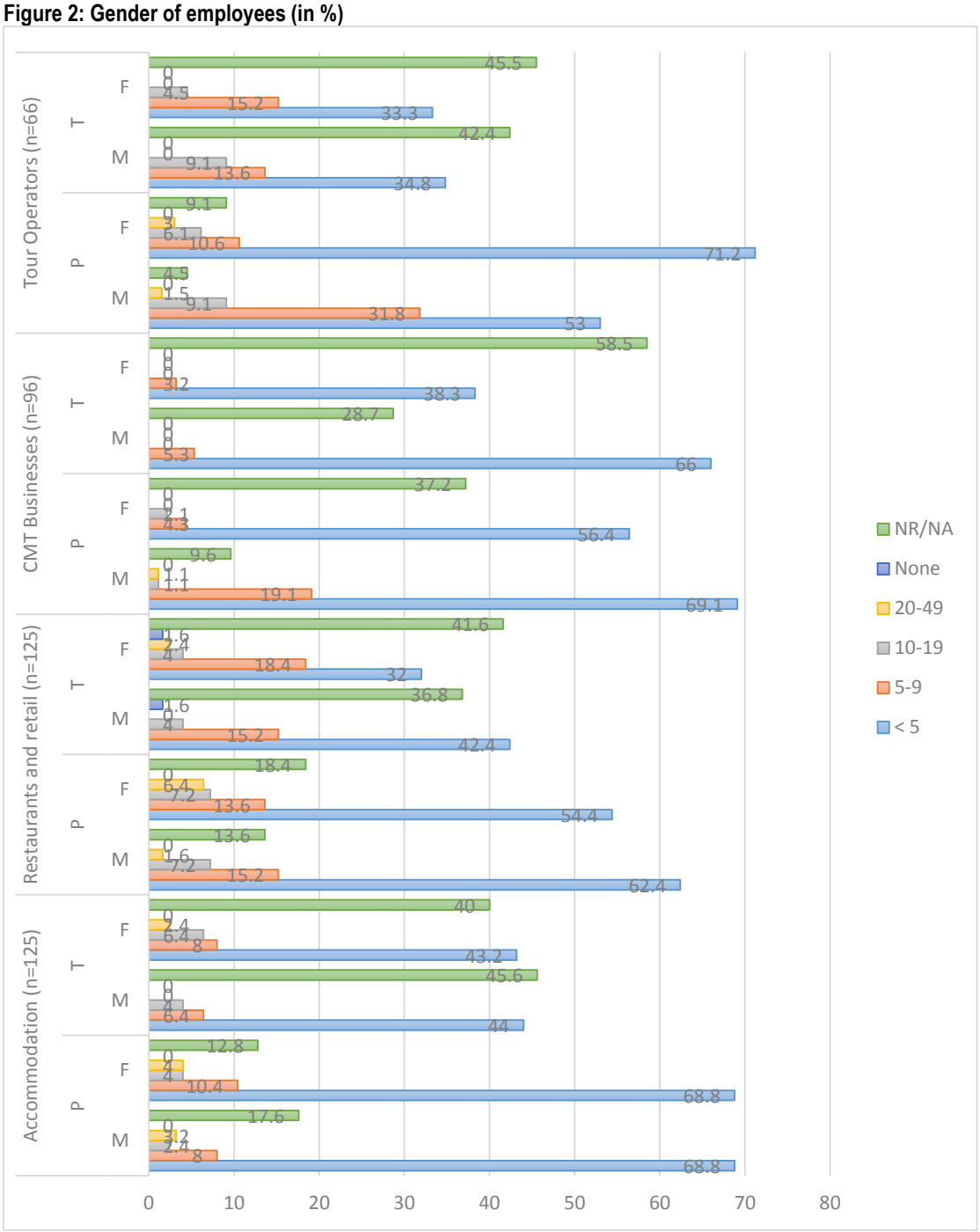
The Table below shows that in terms of gender of the employees, in the accommodation establishments the average number of permanent staff who were males was 3.4 compared to 4.4 for females while the average number of temporary/casual staff who were males was 2.8 compared to 4.6 for females. In relation to restaurants and retail establishments, the average number of permanent staff who were males and females was the same (4) while the average number of temporary/casual staff who were males was 6 compared to 5.4. For CMT businesses, the average number of permanent staff who were males was 3.5 compared to 1.9 for females while the average number of temporary/casual staff who were males was 2.6 compared to 2 for females. Among tour operators, the average number of permanent staff who were males was 4.7 compared to 4.8 for females while the average number of temporary/casual staff was the same for both males and females (4.1). No discernible gender differences emerge. It is important

to note that there were more not applicable and non-responses for temporary/casual staff than those who were permanent as shown in Figure 2. This is understandable given that in these types of businesses temporary/casual staff often work on an ad hoc and/or seasonal basis. There is also substantial staff turnover among this group.

Table 58: Averages for gender of employees

	Accommodation (n=125)		Restaurants and retail (n=125)		CMT Businesses (n=96)		Tour Operators (n=66)	
	P	T	P	T	P	T	P	T
Male	3.4	2.8	4.0	4.0	3.5	1.9	4.7	4.8
Female	4.4	4.6	6.0	5.4	2.6	2.0	4.1	4.1

Figure 2: Gender of employees (in %)



In terms of population group, the Table below summarises the averages for the different stakeholders while the Figure below presents the results in relation to different categories of the number of persons employed. In relation to accommodation establishments, the highest average for permanent employees was for Africans (4.2) and the lowest for Indians (2). In terms of restaurants and retail establishments,

the highest average for permanent employees was for Africans (6.9) and the lowest for Coloureds (2). For CMT businesses, the highest average for permanent employees was for Whites (3.4) and the lowest for Indians (1.3). Among the tour operators, the highest average for permanent employees was for Africans (3.4) and the lowest for foreigners (2.1).

In relation to accommodation establishments, the highest average for temporary/casual employees was for foreigners (3.6) and the lowest for Indians (2). In terms of restaurants and retail establishments, the highest average for temporary/casual employees was for Africans (4.5) and the lowest for Coloureds (2.3). For CMT businesses, the highest average for temporary/casual employees was for Coloureds (2.5) and the lowest for Indians (1). Among the tour operators, the highest average for temporary/casual employees was for Africans (3.5) and none of the respondents indicated that they employed Indians.

Table 59: Averages for number employees from different population groups

	Accommodation (n=125)		Restaurants and retail (n=125)		CMT Businesses (n=96)		Tour Operators (n=66)	
	P	T	P	T	P	T	P	T
African	4.2	3	6.9	4.5	2.4	1.9	3.7	3.5
Coloured	2.6	2.5	2	2.3	1.8	2.5	2.5	2.9
White	2.2	2.1	2.5	3	3.4	2.4	4.1	2.7
Indian	2.1	2	2.5	3.2	1.3	1	2.8	NA
Foreign	1.5	3.6	2.8	4.1	1.7	1.7	2.1	2.7

The Figure below reveals that for most groups, less than 5 persons were employed. It is also worth noting that Africans are employed the most in many businesses which is important given that this is the main equity target group.

Figure 3: Population group of employees (in %)

In terms of where respondents where from, the Table below summarises the averages for the different stakeholders while the Figure below presents the results in relation to different categories of the number of persons employed. In relation to accommodation establishments, the highest average for permanent employees was for locals (5.2) and the lowest for international (1.4). In terms of restaurants and retail establishments, the highest average for permanent employees was for locals (7.5) and the lowest for national (2.1). For CMT businesses, the highest average for permanent employees was for locals (3.9) and the lowest for international (1.5). Among the tour operators, the highest average for permanent employees was for locals (6.6) and the lowest for international (1.4).

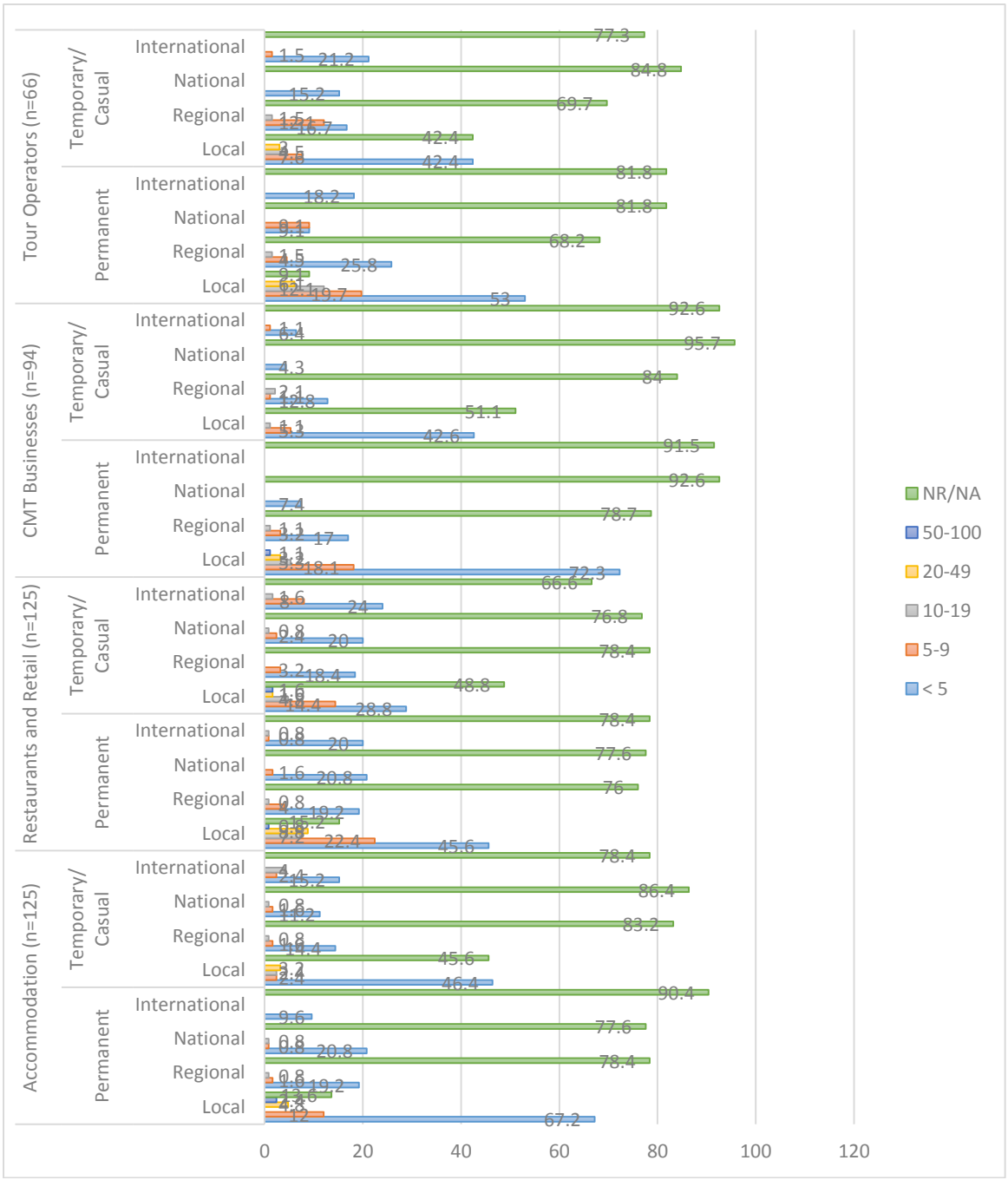
In relation to accommodation establishments, the highest average for temporary/casual employees was for international (5) and the lowest for regional (2.6). In terms of restaurants and retail establishments, the highest average for temporary/casual employees was for locals (6.6) and the lowest for national (2.5). For CMT businesses, the highest average for temporary/casual employees was for regional (4) and the lowest for locals (2.4). Among the tour operators, the highest average for temporary/casual employees was for locals (4.6) and the lowest for national (2.1).

Table 60: Averages for number of persons employed who were local (that is, from the city or town in which the business operates), regional (from the province in which the business operates), national (other South African provinces) or international

	Accommodation (n=125)		Restaurants and retail (n=125)		CMT Businesses (n=96)		Tour Operators (n=66)	
	P	T	P	T	P	T	P	T
Local	5.2	3.5	7.5	6.6	3.9	2.4	6.6	4.6
Regional	2.4	2.6	2.9	2.6	3.5	4	3.3	3.9
National	2.2	3.3	2.1	2.5	2.1	2.5	3.5	2.1
International	1.4	5	2.2	4.1	1.5	2.7	1.4	2.4

The Figure below reveals that for most groups, less than 5 persons were employed. Similar to the gender and population group classification, in all categories mostly less than 5 persons were employed. It is also worth noting that Africans are employed the most in many businesses which is important given that this is the main equity target group. Additionally, mostly employees were locals which contributes to local economic development.

Figure 4: Number of persons employed who were local (that is, from the city or town in which the business operates), regional (from the province in which the business operates), national (other South African provinces) or international (in %)



7.3. Data collection challenges

The main challenge experienced was to undertake research in Northern Cape. Furthermore, we did not receive information as anticipated in relation to databases of supply-side stakeholders. The latter is important to ensure that a more scientific and robust sampling approach is adopted rather than the convenience/ purposive sampling approach adopted in this study. A database of specific stakeholders will permit either a census approach (whereby all stakeholders are contacted) or random sampling to be used which will ensure that selection bias is eliminated. Furthermore, the number to be interviewed in each stakeholder group could be established since the target population will be known.

The number of no responses, cannot recall or don't know is also a problem that was highlighted during the piloting phase and continued during Phase 3 data collection implementation. In an economic modelling this affects the calculations and therefore the overall results. While the need to collect information as precisely as possible was emphasised during the fieldworker training, it is important to note that economic or numerical data collected from recall surveys pose a challenge in relation to data quality and responses, especially when one person in an organisation is being interviewed who may have inadequate knowledge in relation to some of the information being collected. For example, while almost all the supply-side stakeholders interviewed could provide information on the number of permanent employees, fewer could provide information on temporary employees and even fewer could indicate the profile of the employees in relation to their gender, population group or location. An option would be to collect expenditure, income and employment information from other sources (such as annual financial reports or the Department of Labour) to corroborate survey findings.

8. Economic modelling approach and findings/ analysis

8.1. Input-Output analysis: The contribution of CMT business to the overall South African economy

This section employs South Africa's Social Accounting Matrix (SAM) in an I-O model to analyse the sectoral economic impact of CMT on the South African economy. The steps undertaken to build the I-O model are outlined that produces an industry-by-industry matrix and generates total requirements multipliers that are essential for examining the impact of CMT on the economy. The basic principle involves the classic Leontief transformation that provides the mathematical foundation for all I-O types of analysis.

Swenson (2017) laid the foundation upon which the relationship between output and set of inputs is determined using nXn matrices. The analysis conducted in this study, however, follows Davies and Thurlow (2013). The basic principle is that total output is equal to intermediate output and final output, given by:

$$X_t = AX_t + Y_t \quad (1)$$

where X is output, A is a matrix of coefficients, and Y is final demand. Assuming A is an invertible nXn matrix, equation (1) can be rewritten as[1]:

$$X_t = (I - A)^{-1}Y_t \quad (2)$$

where I is an identity matrix. We employ a 49 by 49 $(n = 49)$ matrix of various sectors in South Africa obtained from the country's SAM.

The I-O framework is compiled in a seven-step procedure[2]. The **first** step is to get an industry by industry input-output (I-O) table. An I-O table presents separately purchases of goods and services from, and sales of goods and services to industries. The purchases (inputs) are entered along the columns while

[1] Equation (1) given by: $X_t = AX_t + Y_t$ can be rewritten as: $X_t - AX_t = Y_t$. Factoring out X_t gives $X_t(I - A) = Y_t$. The I in the brackets follows from the fact that we are working with matrices. Dividing across by $(I - A)$ gives equation (2): $X_t = (I - A)^{-1}Y_t$

[2] All computations are carried out in Microsoft Excel.

the sales (outputs) are entered along the rows (see Figure 5). This table (called the transactions table) can be used to identify inter-industry dependencies and the extent to which specific industrial sectors supply goods and services to other sectors in the economy.

The **second** step is to derive the A-matrix from the I-O table. Also referred to as the table of local coefficients, the entries in the A-matrix is calculated by dividing each cell value by the column totals, which effectively gives the value added by each sector. The entries in the 'transactions table' are computed as follows:

$$a_{ij} = \frac{x_{ij}}{\sum_{i=1}^{n} x_i} \tag{3}$$

where a_{ij} is a coefficient in the A-matrix, x_{ij} is an entry in the transactions table, n is the number of sectors and i and j are counters.

Figure 5: Transactions Table

		Selling Industries →				
		A	B	C	…	
Buying Industries ↓	A					Industry A's total sales (outputs)
	B					Industry B's total sales (outputs)
	C					Industry C's total sales (outputs)
	. . .					
		Industry A's total purchases (inputs)	Industry B's total purchases (inputs)	Industry C's total purchases (inputs)		

Source: Authors

In the **third** step, we compile an identity matrix of the same size as the transactions table. This is a matrix with zeroes in all cells and ones in the diagonals. Next, we subtract the cell values in the A-matrix from corresponding cell values in the identity matrix leading to the creation of the $(I - A)$ table. Since all

entries in the A-matrix are positive fractions, the $(I - A)$ table has positive values on the diagonals and negative values in all other cells. This is step **four**.

Step **five** involves inverting the $(I - A)$ matrix to create the SAM inverse, also referred to as the Leontief inverse (Microsoft Excel Code: =MINVERSE (starting cell: end cell), SHIFT+CTRL+ ENTER)[3]. This is also called the total multipliers table (classical predictive multiplier model). All of the value added components are also multipliers. Summing the value added requirements gives us the amount of value added per R1 of output. We can use this table to make impact projections by introducing a shock to a particular industry and observing the impact.

In step **six**, we derive the final demand matrix (Y) and create the final demand column. We sum up the exogenous variables (household consumption, private investment, government expenditure and exports) creating a final demand column where each cell corresponds to a sector in the column entries. Subsequently, we create a 49 by 49 final demand matrix by multiplying the final demand column by a 49 by 49 identity matrix. The final demand matrix will have final demand in the diagonal entries and zeros in all the other cells.

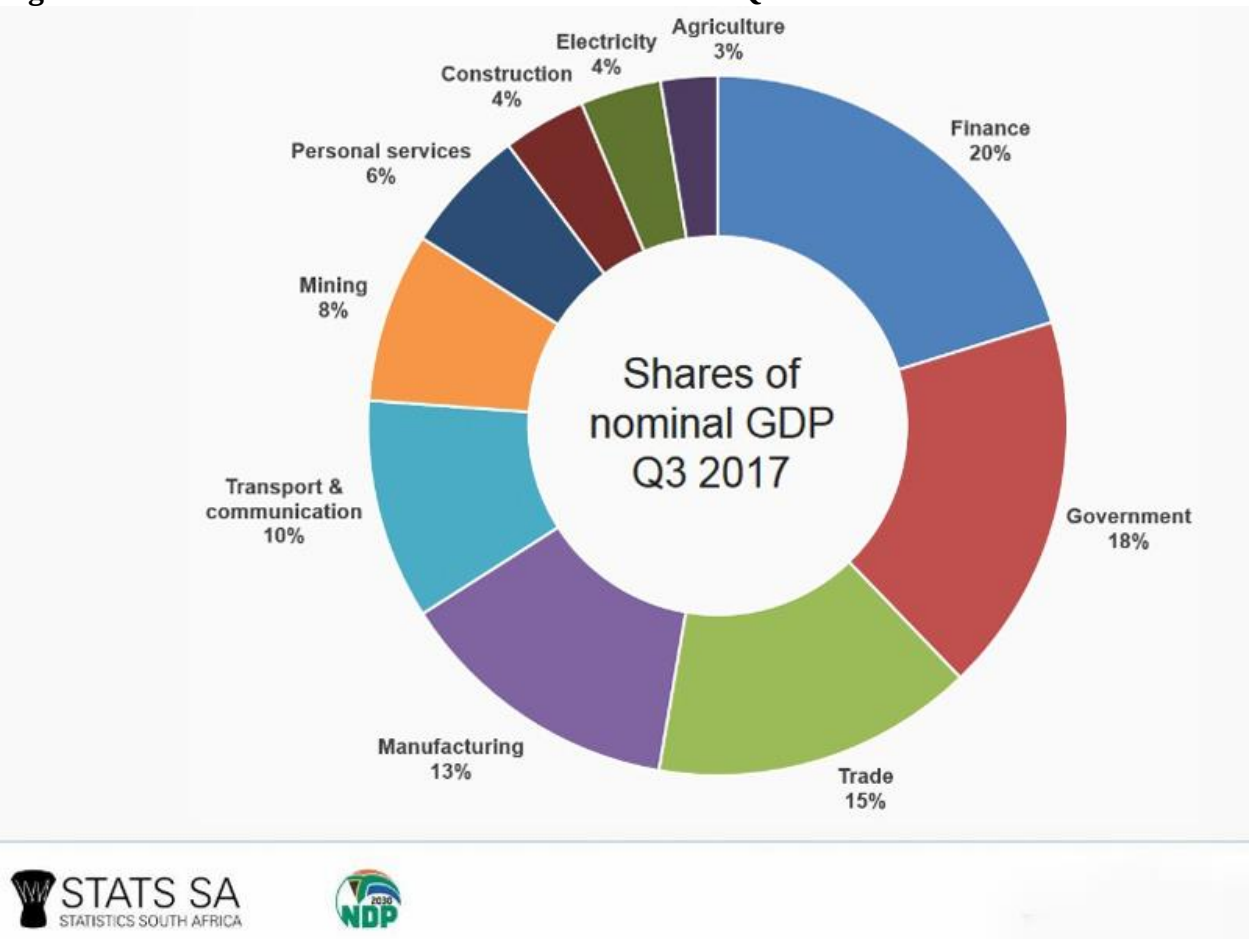
Next, in step **seven**, we multiply the SAM inverse matrix $[(I - A)^{-1}]$ by the final demand matric (Y) using Microsoft Excel code: =MMULT(first cell: end cell), SHIFT+CTRL+ENTER. Finally we add up the industrial column amounts to get output by industry. This final table is a compilation of the combined direct, indirect, and induced effects attributable to intermediate activity and final demand.

We carry out this process with and without the CMT data and compare the final output (results in attached I-O Tables Excel spreadsheets). The primary challenge that we faced was to break down the data into (a) CMT purchases from; and (b) CMT sales to, 49 different sectors of the economy. From the data that was collected, the total CMT income amounted to R2 625 000.00 while CMT expenditure amounted to R1 750 000 in 2017. We use the proportionate distribution of sectoral contributions to GDP in the third quarter of 2017 compiled by Statistics South Africa (see Figure 6). We classify each of the 49 different

[3] You start by highlighting cells with the same size as the A-Matrix followed by the code: =MINVERSE (starting cell: end cell), where the term in brackets is simply a highlight of the A-Matrix. To get the SAM inverse, you press SHIFT+CTRL+ ENTER.

sectors in our I-O model as falling in one of the ten sectors in Figure 6. We use the sectoral contribution to GDP to proxy the proportion of each of the 49 sectors in total income/expenditure in the I-O table (see Table 61).

Figure 6: Sectoral Contributions to GDP in the Third Quarter of 2017



Source:https://www.brandsouthafrica.com/investments-immigration/business/investing/economic-sectors-agricultural

Table 61: Categorisation of CMT sectors proxied by related sectoral contribution to GDP

Sectors	Contribution to GDP	Sector Categories	No in Category
Agriculture	3%	Agriculture	1
Forestry	3%	Agriculture	1
Fishing	3%	Agriculture	1
Food	3%	Agriculture	1
Beverages and tobacco	3%	Agriculture	1
Coal and lignite	8%	Mining	2
Metal ores	8%	Mining	2
Other mining	8%	Mining	2
Structural metal	8%	Mining	2
Spinning and textiles	13%	Manufacturing	3
Knitted fabrics, fur	13%	Manufacturing	3
Leather and luggage	13%	Manufacturing	3
Footwear	13%	Manufacturing	3
Wood	13%	Manufacturing	3
Paper	13%	Manufacturing	3
Publishing	13%	Manufacturing	3
Coke oven manufacture	13%	Manufacturing	3
Nuclear fuel	13%	Manufacturing	3
Other chemicals	13%	Manufacturing	3
Rubber	13%	Manufacturing	3
Plastic	13%	Manufacturing	3
Glass	13%	Manufacturing	3
Non-metallic minerals	13%	Manufacturing	3

Sectors	Contribution to GDP	Sector Categories	No in Category
Furniture	13%	Manufacturing	3
Recycling and NEC	13%	Manufacturing	3
Basic iron and steel	13%	Manufacturing	3
Precious metals	13%	Manufacturing	3
General machinery	13%	Manufacturing	3
Electrical machinery	13%	Manufacturing	3
Electronic valves	13%	Manufacturing	3
Medical appliances	6%	Personal Service	4
Real estate activities	6%	Personal Service	4
Renting of machinery	6%	Personal Service	4
Research	6%	Personal Service	4
Comp	6%	Personal Service	4
Tourism	6%	Personal Service	4
Education	6%	Personal Service	4
Health and social work	6%	Personal Service	4
other services	6%	Personal Service	4
Motor vehicles	10%	Transport and communication	5
Transport	10%	Transport and communication	5
Telecommunications	10%	Transport and communication	5
Electricity, gas and water	4%	Electricity, gas and water	6
Distribution of water	4%	Electricity, gas and water	6
Construction	4%	Construction	7
Trade	15%	Trade	8
Hotels and restaurants	15%	Trade	8
Financial intermediation	20%	Finance	9

Sectors	Contribution to GDP	Sector Categories	No in Category
Auxiliary financial	20%	Finance	9
Insurance and pensions	17%	Government	10

Author: Source: Authors Computation

Table 62 presents a summary of the industries as outlined in Table 61 following a CMT shock. The table shows that in 40 sectors, the respective sectoral contributions to total output increased while it decreased in eight of the sectors. The eight (see highlighted sectors in Table 62) include (1) fishing; (2) other mining; (3) coke oven manufacture; (4) financial intermediation; (5) insurance and pensions; (6) auxiliary and financial; (7) real estate activities; and (8) renting machinery.

Table 62: Comparative Impact of CMT on the South African Economy

Sector	Sector total with CMT	% of Total	Sector total without CMT	% of Total	Difference
Agriculture	8471388	2.6355	8929575	2.600395	0.035105
Forestry	890444	0.277022	889858.2	0.259137	0.017886
Fishing	321234.7	0.099938	361536	0.105283	-0.00535
Coal and lignite	5317891	1.654428	5327517	1.551434	0.102994
Metal ores	15091086	4.694927	15309489	4.458299	0.236628
Other mining	4047540	1.259214	4444859	1.294394	-0.03518
Food	12187266	3.791532	12564325	3.658876	0.132656
Beverages and tobacco	3757429	1.168959	3615367	1.052836	0.116122
Spinning and textiles	1334335	0.41512	1273963	0.370993	0.044127
Knitted fabrics, fur	1075189	0.334498	997582.6	0.290508	0.04399
Leather and luggage	352254.7	0.109589	344009.5	0.10018	0.009409
Footwear	430377.7	0.133893	400691	0.116686	0.017207
Wood	2028826	0.63118	1944492	0.566258	0.064922
Paper	3095617	0.963065	2901099	0.844833	0.118232
Publishing	1866701	0.580742	1686542	0.49114	0.089602

Sector	Sector total with CMT	% of Total	Sector total without CMT	% of Total	Difference
Coke oven manufacture	7659027	2.382769	8218924	2.393445	-0.01068
Nuclear fuel	4885627	1.519948	4929184	1.435435	0.084513
Other chemicals	5285791	1.644441	5300520	1.543572	0.100869
Rubber	962197.8	0.299346	929537.1	0.270692	0.028654
Plastic	1598441	0.497285	1531292	0.44593	0.051355
Glass	477808.4	0.148649	465035.8	0.135424	0.013225
Non-metallic minerals	2276730	0.708304	2344844	0.682845	0.025459
Furniture	916936.4	0.285264	848404.9	0.247065	0.038199
Recycling and NEC	2435560	0.757717	2467015	0.718423	0.039294
Basic iron and steel	6817813	2.121062	6854885	1.996221	0.124841
Precious metals	2244257	0.698202	2201003	0.640957	0.057244
Structural metal	4082438	1.270071	3920664	1.141742	0.128328
General machinery	4117344	1.28093	4033978	1.174741	0.10619
Electrical machinery	2209173	0.687287	2133533	0.621309	0.065977
Electronic valves	725791.2	0.225798	658691.5	0.191819	0.033979
Medical appliances	433378.1	0.134827	395568.7	0.115194	0.019632
Motor vehicles	9294360	2.891531	8743132	2.5461	0.345431
Electricity, gas and water	7785972	2.422263	7846394	2.28496	0.137303
Distribution of water	2846476	0.885556	2978716	0.867436	0.01812
Construction	18018066	5.605528	18187773	5.296488	0.30904
Trade	32409643	10.08283	33862101	9.861032	0.221802
Hotels and restaurants	3602253	1.120683	3321778	0.96734	0.153343
Transport	21073629	6.556132	21387338	6.228238	0.327894
Telecommunications	8553650	2.661092	8141426	2.370877	0.290215
Financial intermediation	11720833	3.646422	17785898	5.179458	-1.53304

Sector	Sector total with CMT	% of Total	Sector total without CMT	% of Total	Difference
Insurance and pensions	8005555	2.490576	12226706	3.560557	-1.06998
Auxiliary financial	8304202	2.583487	15751760	4.587093	-2.00361
Real estate activities	14992648	4.664303	17318708	5.043407	-0.3791
Renting of machinery	1047727	0.325954	1171578	0.341177	-0.01522
Research	651856.7	0.202797	579389.4	0.168725	0.034072
Comp	13466063	4.189373	14092792	4.103983	0.08539
Tourism	41626833	12.95036	41039162	11.95108	0.999282
Education	3354220	1.043518	3304648	0.962351	0.081166
Health and social work	7283978	2.266089	7429773	2.163635	0.102454
Total	3.21E+08	100	3.43E+08	100	0

Source: Authors' Computation

8.2. Coastal and Marine Tourism Economic Account

The recent Tourism Satellite Account (TSA) framework consist of 10 recommended tables, representing tourism supply, visitor consumption, tourism gross fixed capital formation, tourism collective consumption, employment in the tourism industry and tourism related to non-monetary indicators (van de Steeg and Steenge, 2008). For simplicity and comparability purposes it would be ideal to utilise a similar framework in the construction of a CMT TSA account, but difficulties in obtaining relevant data prevented this possibility. For instance, data on the tourism gross fixed capital formation, CMT tourism related to non-monetary indicators, among others, are difficult to obtain. The hardship in the collection of the data required, especially the gross fixed capital formation, could partly be explained by the fact that it is not well defined in the tourism sector (see for example, Frechtling, 2010).

Due to data unavailability, we end up with two tables (Tables 1 and 2 in attached modified TSA excel spreadsheet) which are the 'core' of the TSA, that is, supply of goods and services (the production side of the economy) and the consumption by both the domestic and inbound tourists. Only these two tables are required to compute the CMT value-added. Creating only these two tables is not peculiar to this study.

Several countries follow the same procedure since the TSA is a relatively new and sophisticated statistical tool.

Tourism expenditure refers to the purchase of good and services by visitors through transaction for a satisfaction of their needs and wants during their stay at the preferred destination. Table 1 in the excel spreadsheet shows CMT expenditure by product for South Africa. Each good or service consumed is produced either locally or international (imported). However, we do not have data on imported goods and services as a result specifically of CMT. Hence, our tables will only comprise of non-imported goods and services. The unavailability of the data complicates the construction of the CMT Economic Account[4]. Thus, we make few simplifying assumptions. In Table 1 (excel spreadsheet), accommodation is separated into two categories: (1.a) accommodation in the coastal and marine areas and (1.b) accommodation services in the non-coastal and marine areas. Moreover, with regards to transport, aggregate expenditure on transport is used instead of disaggregated data. Ideally, transport expenditure ought to be disaggregated by the mode of transport such as railway, road transport, etc. In addition, the traditional TSA tables are modified so that CMT products/ activities are recorded on their own.

CMT expenditure amounting to R58 288 570 was recorded in the 2018. The main expenditure was 'transport' (46%), 'accommodation' for tourists (38%); approximately 79% of accommodation expenditure was accounted for by the foreign tourists and 21% is attributed to domestic tourists, 'coastal and marine activities and shopping' accounted for 4.6%, and 'other expenditures' only accounted for 2.4%.

Domestic tourists expenditure on accommodation for the period under consideration was recorded at R4 706 817 or 8% of the total accommodation expenditure, 'CMT activities and merchandise' by locals totalled to R421 666, approximately 0.72% of the total CMT activities and merchandise expenditures. Expenditure on food and beverages by local tourists was recorded at R2 557 920, that is, only 4% of the total CMT expenditure. Other expenditure by domestic tourists stood at R341 692 (0.5%), 'transport' for local tourists amounted to R2 988 568 (5.1%).

[4] Given that significant changes we made on the original TSA tables, and that 'TSA' is an international recognized framework, we refer to the tables constructed in this study as 'Coastal and Marine Tourism Economic Account'.

Foreign or international tourist expenditure on accommodation for the considered period amounted to R17 775 114 (30%), while transport for the for the same group of tourists was recorded at R24 063 377 (41.2%). Expenditure on the CMT activities and merchandise amounted to R1 830 264 (3%) and other expenditures by international tourists was recorded at R1 023 521 (1.8%).

Table 2 (in excel spreadsheet) attempts to use the collected data to compute the total gross value-added by CMT. Several challenges were encountered which renders the values obtained less accurate. Firstly, the lack of data on the 'total intermediate consumption' prevents the calculation of the gross value added. It is, therefore, assumed that the 'intermediate consumption' is zero. With this assumption, the gross value added amounted to R56 923 357 (see Table 2 in excel spreadsheet). In addition to the lack of intermediate consumption, data on taxes and subsidies for this sector is hardly/ or not available at all. Thus, rendering it impossible to continue with the calculations (unless, this is assumed to be zero as well which would be a 'highly unrealistic' assumption). As a result, we could not continue beyond the total gross value-added.

9. Conclusion and way-forward

This study, from Phase 1, highlights the importance of CMT globally and in the South African context. This was reiterated in relation to the survey findings where the results indicate that participation in and satisfaction with CMT activities in locations across the three major coastal provinces (Eastern Cape, KwaZulu-Natal and Western Cape) was relatively high.

The desktop study as well as the piloting during Phase 2 reveal the challenges associated with the economic modelling of CMT generally and in the South African context, specifically in relation to the following:

- Delineating what is the scope of CMT in respect of geographical/ spatial boundaries, the types of activities people participate in that can be designated as CMT (especially given that most CMT spaces are also popular location for leisure and recreational activities) and the identification of relevant demand and supply side stakeholders to collect primary data from.

- Access to databases with contact details of stakeholders to approach to collect information.
- Developing appropriate sampling frameworks given the lack of information in relation to supply-side study target populations.
- Data collection challenges in relation to accessing supply-side stakeholders and their willingness to participate in the study.
- Access to relevant national information (including sufficient information over an adequate period of time to permit forecasting) in relation to critical areas required for economic modelling purposes. This was one of the key reasons why the Cost Benefit Analysis (CBA), general equilibrium models and time-series forecasting methods were abandoned during Phases 1 and 2 of the project. This remains challenges as noted in the previous section in relation to using the I-O and TSA approaches.

From the economic modelling presented in this report, it is evident that given accurate and sufficient data, the CMT Economic Account and I-O Model could be useful tools to quantify the economic impact of the CMT. It is therefore suggested that the NDT should work closely with Statistics South Africa to see if the kind of data required could be collected.

The results from this report also inform the methodological framework and training manual developed. These resources can also guide practitioners within tourism departments as well as organisations to undertake economic impact assessments.

References

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