

**PROPOSED REHABILITATION OF THE OLD TUG JETTY AT THE PORT OF PORT
ELIZABETH**

SOCIO ECONOMIC IMPACT ASSESSMENT

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EXECUTIVE SUMMARY

The purpose of this Socio-economic Impact Assessment (SEIA) is to identify and assess the significant socio-economic impacts that are likely to result from the proposed Rehabilitation of the Old Tug Jetty at the Port of Port Elizabeth, Gqeberha.

The proposed Rehabilitation of the Old Tug Jetty is expected to exert its socio-economic influence at the level of the Port of Port Elizabeth, as well as the Nelson Mandela Bay (NMB) Metro as far as socio-economic consequences are concerned. Two prominent sensitive receptors apply:

- a) The depressed economic performance and outlook of the broader NMB Metro, which does not bode well for the plight of thousands of the Metro's poor and unemployed inhabitants.
- b) The current use and utility of the Old Tug Jetty at the Port of Port Elizabeth, *i.e.* the berthing of fishing vessels and trawlers, as well as associated processing activities, in support of the fishing industry.

To identify and assess the socio-economic impacts of the proposed development, the research results were filtered through a range of possible socio-economic change processes and SEIA categories. The following categories and significant socio-economic impacts were subsequently identified:

Economic impacts:

- The construction phase of the proposed development will see the creation of temporary

(short-term) employment opportunities. This will culminate in positive socio-economic impacts in the form of increased economic activity, poverty alleviation and favourable socio-economic implications (such as improved access to and consumption of goods and services, greater freedom of choice, better quality of life, and so on) for the affected individuals and their dependants.

Empowerment impacts:

- The construction phase of the proposed development could see the development and transfer of skills taking place in order to meet the necessary labour requirements. This will have a socio-economic importance that extends well beyond the period of the proposed development's construction phase. Relevant individuals (beneficiaries) will be able to sell their newly acquired skills within and beyond the boundaries of the local economy long after the completion of the construction phase.

Other construction and operational phase impacts

- a) The proposed development, during the construction phase, will make a positive contribution to the Gross Domestic Product (GDP) of the NMB Metro. The demand for goods and services during the construction phase will also have a positive impact on the local economy.
- b) The proposed development, during the operational phase, will make a positive contribution to the functionality and economic continuity of the Port of Port Elizabeth (particularly with regards to the ability to continue to perform the socio-economic role that it does in support of the fishing industry).

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LIST OF ABBREVIATIONS

GDP	Gross Domestic Product
NMB	Nelson Mandela Bay
SEIA	Socio-economic Impact Assessment

1. INTRODUCTION

The following two subsections provide the basic background for the Socio-economic Impact Assessment (SEIA) of the proposed Rehabilitation of the Old Tug Jetty at the Port of Port Elizabeth – occasionally referred to in this report simply as the *'proposed development'*. Information on the location and basic characteristics of the proposed development are firstly presented, followed by the scope of the SEIA.

1.1 Project location and description

Figure 1 shows the location of the Old Tug Jetty in the Port of Port Elizabeth. It was constructed almost 50 years ago and is used for the berthing of fishing vessels and trawlers. The northern extent of the quay area is used for the transshipment of cargo and supplies. The southern extent of the quay is used for boat maintenance. Due to the age and continued deterioration of the Old Tug Jetty, it is earmarked for rehabilitation / reconstruction. The proposed Rehabilitation of the Old Tug Jetty will cost slightly more than R240m (Transnet, 2021; TNPA, 2022)

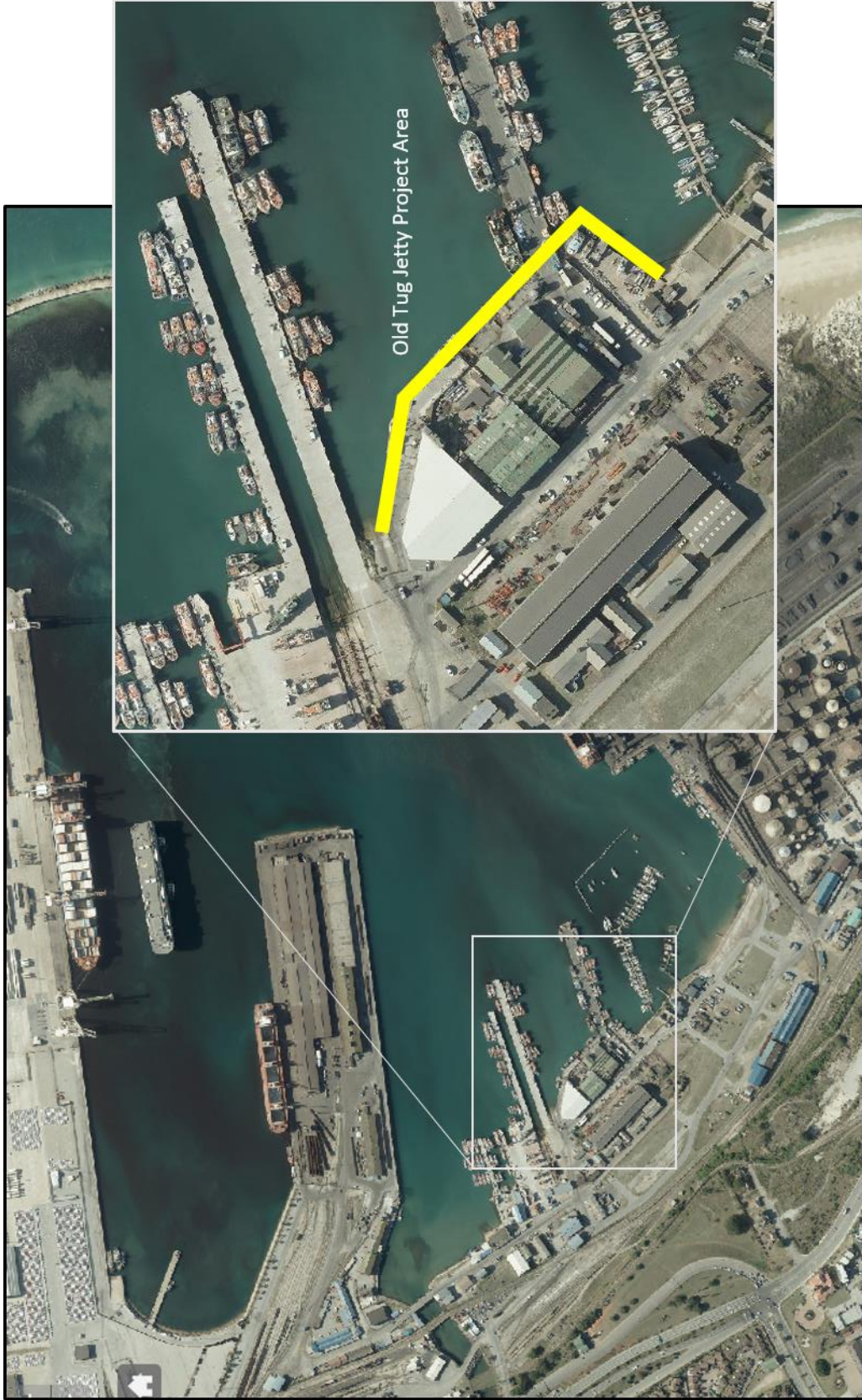


Figure 1: The location and site of the proposed development

1.2 SEIA scope

This SEIA includes the following key components that are generally agreed upon for the study, assessment, and reporting of socio-economic impacts (See Vanclay *et al.*, 2015):

- A baseline description of the affected socio-economic environment in order to comprehend and contextualise relevant issues and impacts;
- The identification and assessment of the potential and significant socio-economic impacts of the proposed Rehabilitation of the Old Tug Jetty, in the construction and operational phases thereof; and
- Recommendations regarding the mitigation of the identified socio-economic impacts (where applicable and in the case of impacts with a significantly negative status).

The study approach of the SEIA appears in **Addendum A**, including the supporting methodological foundation and research process.

2. DESCRIPTION OF THE AFFECTED SOCIO-ECONOMIC ENVIRONMENT

In view of the site and nature of the proposed Rehabilitation of the Old Tug Jetty, the affected socio-economic environment firstly involves the Port of Port Elizabeth, particularly the physical extent of the relevant quay area (Figure 1) and associated economic activities. The site of the proposed development is particularly relevant in the context of its use and utility, *i.e.*, as noted in Section 1.1, the berthing of fishing vessels and trawlers, as well as associated processing activities.

Commercial fishing along the South African coast takes place within and beyond the entire exclusive economic zone. This happens out of three major centres in South Africa, *i.e.* Richards Bay, Cape Town and Port Elizabeth. The fishing industry therefore makes extensive use of the Port of Port Elizabeth as the second most important centre in this industry outside Cape Town (DEFF, 2020).

The other context within which the proposed development is likely to play a role, concerns the economy of the NMB Metro. The Metro experienced its economic heyday about four-and-a-half decades ago, but it has been in steady decline ever since, a trend that has shown little change in the first two decades of the new millennium. The economic decline of the NMB Metro currently shows some signs of abating (NMBM, 2022b), but without much impact on unemployment which continues to manifest at record levels in a post-Covid time (ECSECC, 2018; StatsSA, n.d.).

The above synopsis of the relevant background for the proposed development should be viewed in the context of sensitive receptors against which socio-economic impacts can be assessed. A sensitive receptor is basically an attribute(s) of the affected socio-economic environment which leads to a heightened sensitivity to change (positive and/or negative) in that environment (EPA, n.d.; SEPA, 2007). Sensitive receptors provide relevance to socio-economic impacts, as opposed to such impacts being potentially trivial. In the case of the proposed development, the use and utility of the relevant section of the port on the one hand and the economic situation in the NMB Metro on the other, fulfil the role as sensitive receptors (Also see Section 3.2 and 3.3 for more elaboration).

3. SOCIO-ECONOMIC IMPACT ASSESSMENT

Section 3.1 contains an outline of the relevant socio-economic impact categories that are associated with the proposed Rehabilitation of the Old Tug Jetty. This is followed by the presentation and assessment of the identified socio-economic impacts that are likely to occur during the construction phase of this development (Section 3.2) as well its operational phase (Section 3.3).

3.1 Socio-economic impact categories associated with the proposed development

After the conclusion of the research process (See Addendum A), the results were filtered through the range of possible socio-economic change processes and impact categories. The following socio-economic impact categories (and impacts) surfaced throughout the course of the research process:

a) *Economic impacts:* A project such as the proposed development is certain to contribute to increased local economic activity and the creation of employment opportunities and other impacts following relevant economic multipliers and knock-on effects. Impacts in this case include:

- The creation of employment opportunities (Construction Phase).
- Contribution to the local Gross Domestic Product (GDP) and contemporary economic recovery / development of the NMB Metro (Construction Phase).
- Contribution to increased economic activity via the demand for local goods and services (Construction Phase).
- Enabling economic continuity of the Port of Port Elizabeth (Operational Phase).

b) *Empowerment impacts:* The developer will have to engage in an economic empowerment process in order to supply the proposed development with the necessary local labour. The impact includes:

- Skills development and transfer, particularly in the local Construction Sector (Construction Phase).

NOTE: There are obviously other socio-economic impacts that are associated with projects such as the proposed development. For example, the construction phase is likely to see the following:

- Health and safety impacts following an increase in construction related vehicular traffic and the short-term movement of a small workforce;
- Intrusion impacts such as noise and air pollution (dust), and temporary visual impacts; and
- The temporary interruption of existing use and utility (berthing of fishing trawlers for example).

Such impacts inasmuch as they are obvious, are largely trivial in nature and relatively easy to mitigate.

In the context of the gravity of socio-economic realities in the NMB Metro (See Section 2 and relevant sensitive receptors), impacts such as those noted above (a & b) will receive attention in this report.

3.2 SOCIO-ECONOMIC IMPACTS DURING THE CONSTRUCTION PHASE

3.2.1 Economic impacts

Economic impacts result from employment creation, changes in business activity, livelihoods, economic attributes, etc.

A) Employment creation – impact identification and assessment

Impact identification:

The investment that would be required by the construction phase of the proposed Rehabilitation of the Old Tug Jetty is R240m. It can therefore be considered as a reasonably large construction project. For this reason, a noteworthy outcome of this development, throughout its construction phase, will be the creation of 397 direct employment opportunities in the semi-skilled category.¹

The employment situation in the NMB Metro has drastically deteriorated over the last few decades, among others due to the medium-term slowdown of local economic growth and the more recent lingering economic effects of the Covid-19 pandemic. Currently, the unemployment rate in the NMB Metro is on average somewhere between 36% and 42%. Despite the severity of

¹ Direct employment refers to employment that is directly related to the construction phase and would, among others, include artisans such as bricklayers, plumbers, electricians, concrete workers, etc.

The number of direct employment opportunities (397) was estimated using the total construction cost of the proposed development and the *Average Sectoral Employment Multipliers* of the Industrial Development Corporation (IDC, 2020). The applicable multipliers for *Construction* were applied in this case.

such figures, even the higher of the two figures (42%) is forgiving, because it hides local extremes in places on the urban periphery where unemployment far exceeds the 50% mark. Furthermore, the poverty rate which is naturally allied to unemployment, shows a steady year-on-year increase (over the past decade). These realities are naturally prioritised for intervention in the most recent Integrated Development Plan of the NMB Metro (NMBM, 2022a). When looked at in this context, job creation is an important impact of the proposed development.

The creation of direct employment opportunities is not the only job related advantage of the construction phase of the proposed development. A number of indirect and induced employment opportunities would naturally follow. Whereas a direct job is something that is directly related to the construction of a project, indirect jobs are created due to the provision of goods and services by suppliers and distributors to the on-site construction activities. Induced jobs lastly result from the spending and consumption by direct and indirect workers (IFC, 2013). Using the same methodology as above (See Footnote 1), the number of indirect and induced employment opportunities that will be created by the proposed development's construction phase and activities is estimated at 426.

The creation of employment opportunities (direct, indirect and induced jobs) is likely to have a considerable socio-economic impact in the form of increased economic activity, poverty alleviation and favourable socio-economic implications (such as improved access to and consumption of goods and services, greater freedom of choice, better quality of life, and so on) for the affected individuals and their dependants. Using local household size estimates (StatsSA, n.d.), the latter translates into a total of slightly more than 1349 people for the direct job category alone. In a Metro where unemployment is no doubt a challenge and where the economy grows slower than the population, employment creation translates into a significant impact.

Impact assessment: employment creation

Impact rating:

Impact type:	Existing impact	Project impact		Cumulative impacts with project mitigation
		Unmitigated	Mitigated	
Intensity:	Major	Major	NA	NA
Duration:	Long term	Short term	NA	NA
Extent:	Local	Local	NA	NA
Consequence:	High	Medium	NA	NA
Probability:	Certain	Certain	NA	NA
Frequency:	Always	Always	NA	NA
Impact status:	Negative	Positive	NA	NA
Impact significance:	Negative high	Positive medium	NA	NA

Assessment risks:

Likelihood of mitigation measures being implemented successfully:	NA
Degree to which impacts can be avoided, managed, or mitigated:	NA
Degree to which impacts can be reversed:	NA
Degree to which impacts could cause irreplaceable loss of resources:	NA
Stakeholder interest:	Positive high
Assessment confidence:	High
Degree to which assessment supports decision-making:	Adequate for decision-making

3.2.2 Empowerment impacts

Empowerment impacts result from the social or economic empowerment of vulnerable and other groups.

B) Skills development and transfer – impact identification and assessment

Impact identification:

The commitment by developers to recruit local labour, as far as possible, in order to benefit local communities in general and the unemployed in particular, is almost standard practice in South Africa when construction projects are proposed. The proposed Rehabilitation of the Old Tug Jetty is no different and a number of employment opportunities stand to be created within the semi-skilled category. This is likely to have a considerable socio-economic impact in the form of poverty alleviation and favourable socio-economic implications (improved access to and consumption of goods and services, greater freedom of choice, better quality of life and so on) for the affected individuals and their dependants (Section 3.2.1:A).

One well-known limiting factor that is expected to complicate the prioritisation of local labour during the construction phase of the proposed development, is the educational attainment of the prospective labour force, particularly in the case of semi-skilled and unemployed workers. The twin problems of illiteracy and low levels of post-school education and/or training are clear obstacles in this case. Thus, in order to supply the construction phase of the proposed development with the necessary local labour, the developer will most likely have to engage in a process of skills development and transfer.

In a Metro that is burdened by poverty and high unemployment rates and where many of the unemployed may actually be unemployable without some form of intervention, skills development and transfer are likely to have a substantial socio-economic impact. The benefits would essentially revolve around the improved socio-economic mobility of people and should extend well beyond the construction phase of the proposed development. Relevant individuals would for example be able to sell their newly acquired skills within and beyond the boundaries of the local economy long after the completion of the construction phase. Although the Construction Sector is not the largest employer in the local economy, it shows tremendous growth potential if recent positive trends in building plan approvals in the NMB Metro are taken into account (NMBM, 2022b). The Construction Sector would therefore be in a good position to absorb purposefully skilled labour in the future.

Impact assessment: skills development and transfer

Impact rating:

Impact type:	Existing impact	Project impact		Cumulative impacts with project mitigation
		Unmitigated	Mitigated	
Intensity:	Major	Major	NA	NA
Duration:	Long term	Short term	NA	NA
Extent:	Local	Local	NA	NA
Consequence:	High	Medium	NA	NA
Probability:	Certain	Certain	NA	NA
Frequency:	Always	Always	NA	NA
Impact status:	Negative	Positive	NA	NA
Impact significance:	Negative high	Positive medium	NA	NA

Assessment risks:

Likelihood of mitigation measures being implemented successfully:	NA
Degree to which impacts can be avoided, managed, or mitigated:	NA
Degree to which impacts can be reversed:	NA
Degree to which impacts could cause irreplaceable loss of resources:	NA
Stakeholder interest:	Positive high
Assessment confidence:	High
Degree to which assessment supports decision-making:	Adequate for decision-making

3.2.3 Other construction phase impacts

The above impacts are not the only impacts of the construction phase of the proposed Rehabilitation of the Old Tug Jetty. Other important impacts are likely to occur in addition to these, but the lack of quantifiable particulars (in spite of their importance) saw them consigned to this section. The following impacts are singled out here:

- a) The first impact concerns the positive contribution of the proposed Rehabilitation of the Old Tug Jetty to the Gross Domestic Product (GDP) of the NMB Metro.

GDP provides a measure of the total economic and sectoral activity within a particular area (municipalities, regions, etc.). Expressed as the Rand (market) value of all final goods and services that are produced and sold within a given period of time, GDP is a well-known measure of the status of a municipality's economic activity. It can therefore be used to reflect the capability of a municipality to create, sustain and develop its own economy. Contributions

to the GDP of any particular place therefore carry an obvious importance, something that is particularly associated with construction projects (Lewis, 2008; Nhlapo, 2013). Although the actual contribution of the proposed development to the local GDP may appear relatively small in real terms (albeit positive),² it will nevertheless happen at a time when the local economy is struggling to reflect a growth rate of rarely more than 1.5% year-on-year (NMBM, 2022b). The slow post-Covid recovery rate and of course the problem of energy insecurity in the country and obviously in the NMB Metro as well, add to the woes of the local economy. These realities alone justify the special mention of the above impact.

- b) The second impact that deserves reference is the positive affect that construction projects such as the proposed Rehabilitation of the Old Tug Jetty are certain to have on the local economy via the demand for goods and services.

Higher levels of local economic activity normally follow the demand for goods and services (and the supply thereof) and this in turn is likely to culminate into various socio-economic benefits, such as employment creation and poverty reduction. The extent of this impact is of course a factor of the size and health of the local economy in question and the subsequent ability of local service providers to meet such demands. It follows that the more limited this ability, the more leakage will take place from the local economy as developers would be compelled to source relevant goods and services elsewhere (DBIS, 2008). Although some leakage will inevitably occur, albeit not much given the nature of the proposed development, the impact remains relevant in the context of the positive effect that the demand for goods and services will have on the local economy.

² The economy of the NMB Metro exceeded R160bn in 2021 (NMBM, 2022b).

3.3 SOCIO-ECONOMIC IMPACTS DURING THE OPERATIONAL PHASE

The proposed development by virtue of its nature (construction / civil engineering) is generally not known to have operational phase socio-economic impacts that are always directly measurable and/or apparent. That some impacts in this case are mostly secondary in effect does however not distract from the importance thereof as will be evident in the notes below.

3.3.1 Secondary operational phase impacts

The following socio-economic impact of the proposed Rehabilitation of the Old Tug Jetty is singled out here due to its relevance and socio-economic importance:

a) Enabling economic continuity of the Port of Port Elizabeth.

The link between the site and nature of the proposed Rehabilitation of the Old Tug Jetty and the fishing industry is an important one. In this context, the Old Tug Jetty provides berthing for fishing vessels and trawlers and supports an industry with far reaching economic consequences. According to Brick & Hasson (2016:iv) *“The fishing industry does not exist in isolation but has multiple backward and forward linkages with other sectors in the economy. By considering these linkages, one is able to determine the total value of fishery production to the entire economy.”* They estimate direct employment to be 27 000 while indirect employment is estimated to be between 81 000 and 100 000. Although these estimates were done in 2016 and for the fishing industry as a whole, considering the position of the Port of Port Elizabeth as the second most important centre in this industry outside Cape Town, the number of employment opportunities that it supports in the fishing industry can be assumed to be substantial. The Old Tug Jetty therefore contributes positively to the functionality and

economic continuity of the port (the ability to continue to perform the socio-economic role that it does in support of the fishing industry, as noted in Section 2).

Addendum A: STUDY APPROACH

SEIA methodology

SEIA generally includes *“the processes of analysing, monitoring and managing the intended and unintended socio-economic consequences, both positive and negative, of planned interventions (policies, programs, plans, projects) and any social change processes invoked by these interventions. Its primary purpose is to bring about a more sustainable and equitable biophysical and human environment”* (IAIA, 2003:2). In South Africa, the SEIA process is among others directed by DEAT (2006) and subsequent Socio-economic Impact Assessment System Guidelines (DPME, 2015).

Social processes and impacts

The above IAIA definition highlights two critical conceptual issues, namely ‘socio-economic process’ and ‘socio-economic consequence’ (impact). These are tied together in a cause-and-effect relationship. The influential distinction between ‘process’ and ‘consequence’ in the context of SEIA comes from the model developed by Slootweg et al. (2001). Strongly advocated by the International Handbook of Social Impact Assessment (Slootweg et al., 2003), this model is subscribed to in this chapter. It underlies the importance of segregating socio-economic processes from socio-economic impacts and ultimately supports the understanding of the processes that can result in socio-economic impacts (Aucamp, 2009).

With reference to the effects of proposed policies, programs, plans, or projects, Slootweg’s et al. (2003) model suggests pathways or socio-economic change processes which may culminate in socio-economic impacts. Accordingly, development interventions can result in intended or unintended (socio-economic change) processes. Such processes are discreet and observable and may alter the characteristics of a society. They also take place regardless of particular societal contexts (population groups, nations, religions, etc.). Under certain conditions (community attributes or the nature and extent of mitigation measures for example), social change processes may ultimately result in socio-economic impacts.

Socio-economic change processes

Several socio-economic change processes can be recognised as the fundamental drivers of socio-economic impacts. These include the following according to Van Schooten *et al.* (2003) and supplemented by the author of the current report (See also Vanclay *et al.*, 2015):

- Demographic processes that relate to the movement of people and/or the demographic composition of human populations;
- Human health and safety processes that affect the physical, mental and material wellbeing of people;
- Economic processes that affect the economic activity and the socio-economic status of people and/or the way they make a living (livelihoods);
- Geographic processes that affect land-use and associated patterns;
- Institutional processes that affect the organisations that are responsible for urban, provincial or national governance as well as the supply, regulation and maintenance of the goods and services on which people depend;
- Empowerment processes that affect the ability of people to influence decision-making and the circumstances that impact on their daily lives and well-being;
- Socio-cultural processes that affect the social culture of a society, referring to aspects of the way people live together and / or how this manifests in geographical space;
- Socio-spatial processes that affect the way in which people relate to their residential environments (place utility or sense of place); and
- Intrusion processes that relate to imposed environmental disturbance in the form of pollution.

The above list of socio-economic change processes is obviously not complete due to the complex nature of human society and invariably as a result of the multitude of ways in which it may respond to change (Vanclay, n.d.).

Identifying socio-economic impacts

The identification of social change processes during SEIA is naturally followed by the identification of socio-economic impacts. Following the above-mentioned distinction between socio-economic process and socio-economic impact, a socio-economic impact, according to The Interorganizational Committee on Guidelines and Principles for Social Impact Assessment (2003:231), can be defined as:

“Consequences to human populations of any public or private actions – that alter the ways in which people live, work, play, relate to one another, organize to meet their needs, and generally cope as members of society. The term also includes cultural impacts involving changes to the norms, values, and beliefs that guide and rationalize their cognition of themselves and their society.”

Socio-economic impacts are also something that may be physically experienced (objective impacts in other words that can be quantified, such as changes in people’s health and safety) or emotionally perceived by people (subjective impacts in other words that manifest in the ‘minds’ of people, such as emotional stress, reduced quality of life, or an altered sense of place). Such experiences and perceptions can be either positive or negative.

Faced with the obvious complexity in the identification of socio-economic impacts in multifaceted human societies, a framework of impact categories is often referred to by practitioners for guidance. The following comprehensive set of impact categories is adapted by the present study from Burdge (2004) and act as parameters for the structured identification and presentation of socio-economic impacts:

- Population related impacts ~ resulting from changes in population attributes, the (induced) migration of people, the inflow of a temporary / permanent labour force, *etc.*
- Economic impacts ~ resulting from employment creation, changes in business activity, livelihoods, economic attributes, *etc.*
- Empowerment impacts ~ resulting from the social or economic empowerment of vulnerable and other groups.
- Individual and family level impacts ~ resulting from changes in human movement patterns and social networks, the relocation of individuals and families, *etc.*
- Public health and safety impacts ~ resulting from changes in community health and safety parameters.
- Impacts related to community resources ~ resulting from impacts on cultural sites and social and/or physical infrastructure, *etc.*
- Impacts related to community arrangements ~ resulting from impacts on interest groups.

- Institutional impacts (related to government and other institutions) ~ resulting from infrastructural demand and supply issues, changes in institutional image, land-use change, gentrification, policy related demands and changes, processes that affect urban, provincial or national governance *etc.*
- Intrusion impacts ~ resulting from air pollution, noise pollution, light pollution, visual pollution and malodour pollution.
- Socio-cultural impacts ~ resulting from social disintegration; the creation and/or maintenance of social differentiation, segregation or social inequality, *etc.*
- Socio-spatial impacts ~ resulting from changes in people's place utility or their sense of place.

It is important to note that some of the impact categories and associated variables may naturally overlap. For example, socio-economic impacts that result from employment creation may overlap with empowerment impacts that result from the social or economic empowerment of vulnerable and other groups.

SEIA research process

The recognition of socio-economic change process categories and relevant impact categories, and the subsequent identification and assessment of the socio-economic impacts that may result from the proposed Rehabilitation of the Old Tug Jetty, were largely the product of a technical research approach.

With reference to the technical approach, the SEIA practitioner is an observer of socio-economic phenomena and identifies and assess impacts by means of objective research, published literature and information, simulations, and personal experience. In a participatory approach on the other hand, the SEIA practitioner relies on the knowledge and experience of individuals that are affected by proposed changes as the foundation from which socio-economic impacts are projected (Sogunro, 2001; Becker *et al*, 2004; DPME, 2015).

To identify and assess the socio-economic impacts of the proposed Rehabilitation of the Old Tug Jetty, research results were filtered through a range of possible socio-economic change processes and impact categories. The impacts were then identified and assessed. Rating criteria of the actual assessment process, the qualitative way in which impacts are rated and presented in a tabular form in other words, are listed below (See the first column of the table below):

- Impact intensity
- Impact duration
- Impact extent
- Impact consequence
- Impact probability
- Impact frequency
- Impact status
- Impact significance

The above criteria are first applied to the so-called 'existing impact' which refers to the current and relevant status of the affected socio-economic environment. Both DEAT (2006) and DPME (2015) emphasise the importance of a proper understanding of the current socio-economic environment, because this presents the baseline for predictions in the SEIA process.

Impact assessment template with impact rating criteria

Impact rating criteria:	Existing impact	Policy / programme plan / project impact	
		Unmitigated	Mitigated
Intensity:			
Duration:			
Extent:			
Consequence:			
Probability:			
Frequency:			
Impact status:			
Impact significance:			

The technical definitions of the above mentioned list of criteria, as well as the sequence (steps) of the impact assessment process, appear in the tables below.

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Step 1:	Identify and Describe the Nature of the Impact	
Existing Impacts	Current level of socio-economic deprivation / degradation / predicament associated with the affected socio-economic environment.	
Project Impacts	Impacts of the proposed project and associated activities and infrastructure (also known as incremental impacts).	
Impact Status	Negative	Impacts with a potential negative / adverse effect
	Neutral	Neutral, no impact
	Positive	Impacts with a potential positive / beneficial effect

Step 2:	Identify and Discuss Mitigation / Impact Management Measures	
Mitigation Measures (Impact Management)	Measures designed to avoid, reduce or remedy potential adverse impacts. Measures designed to compensate for residual adverse impacts. Measures designed to expand and augment the effect of potential positive impacts (enhancement measures).	

Step 3:	Rating of Impact Consequence and Significance	
Unmitigated	Impact rating assuming the proposed mitigation measures are not in place.	
Mitigated	Impact rating assuming the proposed mitigation measures are in place.	
Intensity (Negative Impacts)	Eliminated	The impact was considered and assessed but found to be not applicable to the affected socio-economic environment.
	Minor	Slight change, disturbance or nuisance. Targets, limits and thresholds of concern never exceeded. Impacts are rapidly and easily reversible. Require no or only minor interventions if these impacts occur. No complaints expected when the impact takes place.
	Moderate	Moderate change, disturbance or discomfort. Large enough to have a real effect. Targets, limits and thresholds of concern may occasionally be exceeded. Impacts are reversible but may require some effort, cost and time. Sporadic complaints can be expected when the impact takes place.
	Major	Substantial change, disturbance or degradation. Real and prominent effects. May result in illness or injury. Targets, limits and thresholds of concern regularly exceeded. Regular complaints can be expected when the impact takes place.
	Extreme	Extreme change, disturbance or degradation. A serious disruption to the functioning of a community or a society causing widespread human, material, economic or environmental losses which exceed the ability of the affected community or society to cope. Potentially catastrophic.
Intensity (Positive Impacts)	Eliminated	The impact was considered and assessed but found to be not applicable to the affected socio-economic environment.
	Minor	Slight change or improvement. Minor benefits.
	Moderate	Moderate change or improvement. Real but not substantial benefits.
	Major	Prominent change or improvement. Real and substantial benefits. General community support.
	Extreme	Considerable large-scale change or improvement compared to current conditions. Widespread benefit. Favourable publicity and/or widespread support expected.
Extent (Spatial (geographical) scale of the impact)	Site	Impact limited to within the boundaries of the project site. Not notable impact on receptors beyond the site boundary.
	Local	Impact notable in the immediate area (< 5 km) around the project site. Individual sensitive receptors may be affected. Does not affect an entire neighbourhood, habitat or community. Does not affect large numbers of people in nearby townships.
	Regional	Widespread impact within province / district or catchment. Large area or large numbers of sensitive receptors affected. May affect an entire community, neighbourhood or habitat. May affect large numbers of people in nearby residential areas.
	(Inter) national	National and or international (transboundary) impacts.
Duration (Risk or impact period. The total length of time (i.e. number of months or years) that the impact or risk will be present)	Short-term	Less than 5 years. Impact may occur for the first few years of the project, during construction, or for up to five years. Once the impact source has been removed, the effects are reversible within a one year period.
	Medium-term	> 5 to 10 years. Impact may occur for up to ten years. Once the impact source has been removed, the effects are reversible within a three year period.
	Long-term	> 10 years, and for < 10 years after decommissioning or rehabilitation. May occur throughout the operational life of the project, but will cease after operations ceases either because of natural processes or human intervention / remediation.

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Step 3:		Rating of Impact Consequence and Significance
Unmitigated		Impact rating assuming the proposed mitigation measures are not in place.
Mitigated		Impact rating assuming the proposed mitigation measures are in place.
Intensity (Negative Impacts)	Eliminated	The impact was considered and assessed but found to be not applicable to the affected socio-economic environment.
	Minor	Slight change, disturbance or nuisance. Targets, limits and thresholds of concern never exceeded. Impacts are rapidly and easily reversible. Require no or only minor interventions if these impacts occur. No complaints expected when the impact takes place.
	Moderate	Moderate change, disturbance or discomfort. Large enough to have a real effect. Targets, limits and thresholds of concern may occasionally be exceeded. Impacts are reversible but may require some effort, cost and time. Sporadic complaints can be expected when the impact takes place.
	Major	Substantial change, disturbance or degradation. Real and prominent effects. May result in illness or injury. Targets, limits and thresholds of concern regularly exceeded. Regular complaints can be expected when the impact takes place.
	Extreme	Extreme change, disturbance or degradation. A serious disruption to the functioning of a community or a society causing widespread human, material, economic or environmental losses which exceed the ability of the affected community or society to cope. Potentially catastrophic.
	Permanent	Permanent. Irreversible (residual impacts will remain for more than 10 years after the impact source has been removed).
Consequence		Consequence = Intensity + Duration + Extent The outcome or result of an impact / risk being realised.

Probability	Likelihood that the impact will occur.	
	Eliminated	The impact was considered and assessed but found to be not applicable to the project site or affected socio-economic environment..
	Highly Unlikely	Conceivable but will only happen in exceptional circumstances (<20% chance of happening).
	Possible	Plausible. Could happen and has occurred here or elsewhere (20 to 50% chance of happening).
	Highly Likely	Probable (>50 to 80 % chance of happening).
	(Near) Certain	Definite or expected. The impact cannot be prevented. (>80 % chance of happening).
Frequency	How often (number of occurrences) the impact would manifest over the impact duration period.	
	Sporadic	< 5% of the time. Once off occurrence. Effects only present for a short period of time, no residual effects.
	Occasional	5 to 30% of the time. Occurring from time to time without specific periodicity or pattern. Effects are reversed quickly and easily.
	Regular	> 30 to < 80% of the time.
	(Near) Always	> 80 to 100% of the time.
Significance	Significance = Consequence x (Probability + Frequency)	
	Negative Very High	Widespread negative effect. Negative impact that is of the highest order. Potential fatal flaw. Unacceptable impact / loss of a resource will occur.
	Negative High	Substantial negative impact.
	Negative Moderate	Negative impact that is real but not substantial.
	Negative Low	Low to negligible negative impact with little real effect.
	Positive Low	Low to insignificant positive impact.
	Positive Moderate	Positive impact that is real but not substantial.
	Positive High	Substantial positive impact.
	Positive Very High	Widespread/substantial beneficial effect.

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<i>Impact Rating Matrix</i>						
CONSEQUENCE (Intensity + Duration + Extent)	INTENSITY:	DURATION:	EXTENT:			
			<i>Site</i>	<i>Local</i>	<i>Regional</i>	<i>(Inter)national</i>
	<i>Extreme</i>	<i>Permanent</i>	High	Very High	Very High	Very High
		<i>Long-term</i>	High	High	Very High	Very High
		<i>Medium-term</i>	High	High	High	Very High
		<i>Short-term</i>	Medium	High	High	High
	<i>Major</i>	<i>Permanent</i>	High	High	Very High	Very High
		<i>Long-term</i>	High	High	High	Very High
		<i>Medium-term</i>	Medium	High	High	High
		<i>Short-term</i>	Medium	Medium	High	High
<i>Moderate</i>	<i>Permanent</i>	Medium	Medium	High	High	
	<i>Long-term</i>	Medium	Medium	Medium	High	
	<i>Medium-term</i>	Low	Medium	Medium	Medium	
	<i>Short-term</i>	Low	Low	Medium	Medium	
<i>Minor</i>	<i>Permanent</i>	Low	Low	Medium	Medium	
	<i>Long-term</i>	Low	Low	Medium	Medium	
	<i>Medium-term</i>	Low	Low	Low	Low	
	<i>Short-term</i>	Low	Low	Low	Low	
<i>Eliminated</i>	<i>Permanent</i>	None				
	<i>Long-term</i>					
	<i>Medium-term</i>					
	<i>Short-term</i>					

SIGNIFICANCE (Consequence x Probability + Frequency)	PROBABILITY:	FREQUENCY:	CONSEQUENCE:				
			<i>None</i>	<i>Low</i>	<i>Medium</i>	<i>High</i>	<i>Very High</i>
	<i>(Near) Certain</i>	<i>Regular / Always</i>	None	Low	Medium	High	Very High
		<i>Occasional</i>	None	Low	Medium	High	Very High
		<i>Sporadic</i>	None	Very Low	Low	Medium	High
	<i>Highly Likely</i>	<i>Regular / Always</i>	None	Low	Medium	High	Very High
		<i>Occasional</i>	None	Very Low	Low	Medium	High
		<i>Sporadic</i>	None	Very Low	Very Low	Low	Medium
	<i>Possible</i>	<i>Regular / Always</i>	None	Very Low	Low	Medium	High
		<i>Occasional</i>	None	Very Low	Very Low	Low	Medium
<i>Sporadic</i>		None	Very Low	Very Low	Very Low	Low	
<i>Highly Unlikely</i>	<i>Regular / Always</i>	None	Very Low	Low	Medium	High	
	<i>Occasional</i>	None	Very Low	Very Low	Low	Medium	
	<i>Sporadic</i>	None	Very Low	Very Low	Very Low	Low	
<i>Eliminated</i>	<i>N/A</i>	None	None	None	None	None	

REFERENCES

AECOM, 2021/2022. Africa Property and Construction Cost Guide.

< https://aecom.com/africa_property_construction_cost_guide/ >

Aucamp, P.J. 2009. **Environmental Impact assessment: A Practical Guide for the Discerning Practitioner**. Van Schaik: Pretoria.

Becker, D.R., C.C., Harris, E.A. Nielsen & W.J. McLaughlin, 2004. A comparison of a technical and participatory application of social impact assessment. **Impact Assessment and Project Appraisal**, 22(3): 177-189.

Brick, K. & R. Hasson, 2016. **Valuing the Socio-economic Contribution of Fisheries and Other Marine Uses in South Africa**. Environmental Economics Policy Research Unit, University of Cape Town, Cape Town.

Burdge, R.J. 2004. **A Community Guide to Social Impact Assessment**. Middleton: Social Ecology Press.

DBIS, 2008. **Additionality Guide: A Standard Approach to Assessing the Additional Impact of Interventions**. Department for Business Innovation and Skills / English Partnerships.
<https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/191511/Additionality_Guide_0.pdf>

DEAT, 2006. Socio-Economic Impact Assessment, Integrated Environmental Management Information Series 22, Department of Environmental Affairs and Tourism (DEAT), Pretoria.

DEFF, 2020. Status of the South African marine fishery resources 2020. Cape Town: Department of Environment, Forestry and Fisheries.

DPME, 2015. SEIAS Guidelines: Version-May 2015, Department of Planning, Monitoring and Evaluation (DPME), Pretoria.

ECSECC, 2018. Eastern Cape Labour Market Overview.

<https://www.ecsecc.org/documentrepository/informationcentre/ecsecc-labour-report2018q35_95426.pdf>

IAIA, 2003. **Social Impact Assessment: International Principles**. Special Publication Series No.2. International Association for Impact Assessment. Fargo: ND.

IDC, 2020. Average Sectoral GDP and Employment Multipliers for South Africa in 2020. Supplied by the Independent Development Corporation, Sandton.

IFC, 2013. **IFC Jobs Study: Assessing Private Sector Contributions to Job Creation and Poverty Reduction**. International Finance Corporation, Washington.

Jabareen, Y.R. 2006. Sustainable urban forms: their typologies, models, and concepts. **Journal of Planning Education and Research**, 26:38-52.

Lewis, T.M. 2008. Quantifying the GDP–construction relationship. In: Ruddock, L. (ed), **Economics for the Modern Built Environment**. London: Routledge: (34-69).

NMBM, 2022a. Integrated Development Plan, 2017/18 – 2021/22. Nelson Mandela Bay Municipality.

<https://www.nelsonmandelabay.gov.za/DataRepository/Documents/2021-22-idp-adopted_6Mb5j.pdf>

NMBM, 2022b. Nelson Mandela Bay: Economic Bulletin, July 2022. Nelson Mandela Bay Municipality.

<<https://www.exportersec.co.za/wp-content/uploads/2022/08/NMB-Economic-Bulletin-July-2022.pdf>>

Nhlapo, S. 2013. **The potential long and short term benefits of major infrastructure projects to the South African economy** [Unpublished]: MIng (Engineering Management). University of Johannesburg.

Slotweg, R., F.M. Vanclay & M. van Schooten, 2001. Function evaluation as a framework for the integration of social and environmental impact assessment. *Impact Assessment and Project Appraisal*, 19(1): 19-28.

Slotweg, R., F. Vanclay & M. van Schooten, 2003. Integrating Environmental and Social Impact Assessment. In: Becker, H. & F. Vanclay (eds), **International Handbook of Social Impact Assessment: Conceptual and Methodological Advances**. Cheltenham: Edward Elgar: (56-73).

Sogunro, O.A. 2001. Selecting a quantitative or qualitative research methodology: an experience. **Educational Research Quarterly**, 26(1): 3-10.

Stats SA, 2006. **Migration and Urbanisation in South Africa**. Report no. 03-04-02. Statistics South Africa, Pretoria.

StatsSA, n.d. Statistics by place / Metropolitan Municipality: Nelson Mandela Bay.

<https://www.statssa.gov.za/?page_id=1021&id=nelson-mandela-bay-municipality>

The Interorganizational Committee on Guidelines and Principles for Social Impact Assessment, 2003. Principles and guidelines for social impact assessment in the USA. **Impact Assessment and Project Appraisal**, 21(3): 231-250.

TNPA, 2022. Estimated cost of infrastructural rehabilitation at the Port of East London and Port Elizabeth in the Eastern Cape. Personal communication. Transnet National Ports Authority.

Transnet, 2021. Description of Services: Provision of Environmental Consultancy and Specialist Services for the Port of East London and Port Elizabeth in the Eastern Cape: Part 3C: Scope of Services. Transnet National Ports Authority.

Vanclay, F.M., Aucamp, I. & D.M. Franks, 2015. Social Impact Assessment: Guidance for Assessing and Managing the Social Impacts of Projects. Guidance Note, International Association for Impact Assessment. Fargo: ND.

Van Schooten, M., F. Vanclay & R. Slootweg, 2003. Conceptualizing Social Change Processes and Social Impacts. In: Becker, H. & F. Vanclay (eds), **International Handbook of Social Impact Assessment: Conceptual and Methodological Advances**. Cheltenham: Edward Elgar: (74-91).

WBCSD, 2005. **Environmental and Social Impact Assessment Guidelines**. World Business Council for Sustainable Development: Cement Sustainability Initiative: Genève.