An Independent Review of the National Spatial Development Strategy Reports for Trinidad and Tobago

Port of Spain, 2013

UN Global Compact Cities Programme, Melbourne and New York; Ministry of Planning and Sustainable Development, Port of Spain.
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This report has been prepared in consultation with the following people based on the ‘Circles of Sustainability’ method (see Appendix 1):

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Summary

Background

In April 2013, the Ministry of Planning and Sustainable Development, Trinidad and Tobago, invited the United Nations Global Compact, Cities Programme, to review its draft *National Spatial Development Strategy*. Globe Consultants International Limited developed the draft Strategy in consultation with the Government of Trinidad and Tobago. The Strategy comprised three separate-but-integrated documents:

Volume 1. *Method Statement and Integrated Sustainability Appraisal*
Volume 2. *Surveying the Scene: background information and Key Issues*
Volume 3. *The Core Strategy and Regional Guidance*

Both the *Method Statement* and the *Surveying the Scene* documents, along with many other references, inform the *Core Strategy* document.

This review provides an overall assessment of these documents. It examines each of these three documents, including an overview of their structure and comments, before listing some general comments and recommendations. In so doing, it identifies a number of considerations, which if adopted, we feel would build upon the plan and any attempt to operationalize its contents. Criticisms contained in this review, to the extent that they appear at all, are intended only as suggestions. Overall, we have a high regard for the *National Spatial Development Strategy* and all our comments should be taken to be in the spirit of constructive dialogue.

Overall Assessment

The *National Spatial Development Strategy for Trinidad and Tobago* is thorough, well researched and useful. It is based on a strong working knowledge of the country, although more detail specific to policy development would have been helpful. The backgrounding, the argument and the processes that underlay the report are based on clear presentation and consistent steps.

Method

The approach deployed by *National Spatial Development Strategy* is sophisticated and methodologically sound. It combines several tools that have been well tested and are generally well regarded:

- Matrices for examining impacts and relationships between objectives;
- Back-casting—imagining life thirty-years hence and then planning the steps for getting there; and
- A holistic and integrated sustainability assessment framework—in this case based on a triple-bottom-line model.

These approaches have been carried through consistently. The methods used are positive indications of the usefulness of the overall report.

Thematics

The three themes chosen as the organizing principles for the *National Spatial Development Strategy*—strong and resilient communities, sustainable prosperity and sustainable infrastructure—are appropriate, and the objectives developed in relation to these themes are clear, simple and compelling.

Strategy

In general, the strategic thinking is strong and makes sense.
Overview of Further Suggestions

As the National Spatial Development Strategy itself suggests, by arguing for decentralization of policy implementation and a delegation downwards of policy discussion through such processes as Municipal Development Planning, there is considerable further work that could be done in Trinidad and Tobago to build upon the current report. There is the need for a series of more hard-hitting, research-based and community-engaged examinations of the challenges faced by Trinidad and Tobago. There is also the need for a lengthy public debate about the future directions of the country. Most importantly, there is a lot of work to be done in translating the high-level strategic considerations into on-the-ground policy.

1. The Report and its recommendations are positive and generally optimistic. This is important and understandable. However, in light of the likely challenges a small nation-state like Trinidad and Tobago is likely to face, we suggest that substantial additional work needs to be done to elucidate and specify challenges and threats. (Here a Scenarios Planning Method or a Critical Issues Method would support the current work—see Appendices 2 and 3). It would be useful in future elaborations to develop a deeper sense of potential threats to the vision of sustainability that is expressed in the Strategy. Some pointed concerns would include the following:

   - The impact of global climate change and the development of an adaptation policy framework.
   - The consequence of global economic instability—particularly concerning fluctuations in the price of oil, and the country’s dependence on imports, including most acutely even food. Food insecurity is one of the critical issues that is only just beginning to bear down upon small economies.
   - The possibility, however seemingly remote, of internal unrest—particularly given emergent responses to economic inequality, social differences between the island Trinidad and the island of Tobago, and the potential of increasing inequalities between regions on the island of Trinidad.
   - The probability of increasing sprawl, or suburbanization of an unsustainable kind, with settlements stretching down the west coast of Trinidad in a way that hinders good development.
   - The ongoing impact of organized crime—particularly given Trinidad and Tobago’s position relative to drug trafficking between Columbia, Venezuela and the United States and European markets.

2. In general, the National Spatial Development Strategy, like most others of its kind, assumes that the actors they are written for have far more agency than is often possible given the constraints of government. To a degree this is inevitable given that consultants are providing an advisory service, but we suggest that attention needs to be paid in future work to questions of governance and its relation to implementation. This would include issues of organizational capacity and the need for training and professional development for government administrators.

3. In some places it is not clear what the existing policy is in place and therefore, it is not always clear what development on existing policy is proposed. The broad strategic directions are relatively clear, but specific policy advice is minimal. This is a characteristic of the many national development plans that aim to leave the government maximum flexibility. There is still major work to be done beyond the National Spatial Development Strategy to develop a systematic rendering of how the national settlement strategy can continue, or seek to change, the actual provisions of current Trinidad and Tobago plans—with specific places, projects and policies brought into contention. Apart from the policies in the Strategy, we would suggest the following, for example:

   - implementing a Bus Rapid Transit system with the networked routes on the island of Trinidad planned for now and based on projections of demographic change and settlement patterns over
the next 30 years. Retrofitting transport lines, including buying back transport corridors is inordinately expensive when forward planning and zoning is not done.

- implementing a series of exemplary housing and redevelopment projects close to major transport interchanges such as in Port of Spain with mixed-cost and social housing that show how three-to-four storey dwellings located close to amenities such as parks, shops and schools can be attractive places to live.
- implementing much stronger urban growth boundaries and strengthening policing in relation to illegal building outside of properly zoned areas.
- implementing a major ongoing national debate around the National Plan and a national vision for Trinidad and Tobago, drawing in schools, local communities, developers and planners.
Considerations of the each of the volumes of the National Spatial Development Strategy:

**Volume 1. Method Statement and Integrated Sustainability Appraisal**

The process undertaken in developing the National Spatial Development Strategy is properly iterative and follows a cyclical process of fact-gathering, analysis, policy formulation, implementation, monitoring and review, with stakeholder participation at its core.

In the diagram that opens the volume on method, the process is well illustrated in the context of answering a sequence of four questions: What is happening? What matters most? What can be done about it? Is it working?

These are the right questions. The sequence of steps is appropriate and accords with best-practice planning. And it is simply expressed. From our perspective, an explicit phase of communication could be added to this list of the cyclical stages even though it is implied in the emphasis on stakeholder participation.

This question of communicating to the broader public needs to take the form of consistent engagement, including a series of public meetings in different locales across the country, facilitated public debates by senior figures including those outside the formal political process, and media and print communication. The National Spatial Development Strategy cannot remain as a series of government documents or be simply summarized in pamphlets for distribution.

The National Spatial Development Strategy defines ‘sustainability’ in conformation with the classic 1987 Brundtland report and has as its three pillars: economics (and therefore the goal of ‘economic development’), social (with ‘social equity’ as the key), and environment (with ‘environmental protection’ highlighted). This is a conventional and well-respected frame, although we would suggest a four-domain model of economics, ecology, politics, and culture, without specifying the goals or central themes prior to the work of consulting with stakeholders. Indeed when the ‘Sustainability Objectives’ are listed later in the Strategy they are more nuanced and fuller.

We are heartened that in relation to economics throughout the National Spatial Development Strategy the emphasis is on economic development, economic innovation and economic prosperity—not economic growth. The emphasis on growth beyond rates of demographic change tends to distort economies in ways that are often unproductive.

We would suggest that development could be defined as social change—with all its intended or unintended outcomes—that brings about a significant and patterned shift in the technologies,
techniques, infrastructure, and/or associated life-forms of a place or people. This means that the terms of the development can be debated. This is in keeping with our emphasis on encouraging public engagement in Trinidad and Tobago with the National Spatial Development Strategy and making the terms of its approach transparent.

For example, when the word ‘innovation’ is attached to the concept of economic development, for example, it tends to cover up the need for clear choices. Why not build on current energy industry development now, and diversify in that sector—à la Oman—rather than start again (if that isn’t too pessimistic a way to put present innovation potential). According to the World Economic Forum, innovation in Trinidad and Tobago is surprisingly near the bottom of the world league table.

Given the possibility of unintended consequences, reversals, and counterproductive outcomes, there is no suggestion in the definition just given about that all ‘development’, even ‘good development’, is sustainable. Nor, it should be added, is all ‘sustainable development’ good. This is how is should be in a definition. This last point is one rarely made in the mainstream literature. The Brundtland Report, defined sustainable development as ‘development that meets the needs of the present without compromising the ability of future generations to meet their own needs’. This definition still works. However, its meaning turns on the undefined implications of the word ‘needs’ and the assumed importance of cultural, political and ecological needs rather than just economic material needs. These again are issues to be debated publicly and nationally rather than left assumed in the pages of National Spatial Development Strategy.

The Integrated Sustainability Approach used in the National Spatial Development Strategy is developed from the framework from the European Union Commission’s Strategic Environmental Directive (SEA Directive) and has four stages. These stages work well, and even though they are only summarized here, the method is comprehensive and effective.

Through stakeholder workshops the document identifies 18 sustainability objectives organized through the ISA framework. These cover all three pillars. The objectives are good, but remain very generic as objectives, and in the next stage of policy development need to be defined more precisely. This is particularly so given the multiple definitions and interpretations of basic concepts (social justice, inclusion, etc.) and the ways in which these come to be contested in practice. Questions of culture are missing from here: for example, issues of identity and engagement, sport and leisure, heritage and vision. Cultural questions have significant consequences for planning that are often overlooked in national plans.

In the next step, the 18 objectives are checked for complementary/contradictory results. Contradictions are found in particular in relation between economic and environmental issues. These are relevant and accurate perceptions of the tensions. However, because the objectives listed here were not detailed and precise, the ‘neutral’ option may be hiding potential dangers and tensions. Uncovering these tensions would take considerable research, but we recommend such research and community discussion as a key consideration for further work.

Next the sustainability objectives are related to the NSDS objectives based on effect, likelihood, scale, duration and timing. The NSDS goals 8–12 as outlined (Building a competitive, innovation-driven economy; Achieving food security; building strong, diverse regions; building places for people; delivering the homes we need) in particular carry potential dangers for sustainability goals 15–18 (To protect and enhance the built quality of urban areas, villages and the spaces within them; To enhance the value of ecosystems services; To protect and enhance the biodiversity and geodiversity of the natural environment; To improve and/or retain the quality of watercourses, coastal and marine resources, air quality and soil quality and achieve sustainable use of water resources). Each of the 19 conflict areas are discussed with rational mitigation responses. This analysis is coherent and thoughtful.

Three possible planning strategies are introduced: concentrated development; dispersed development; and, harmonized regional development. Each of these are discussed and related to the 18 sustainability
goals. The conclusion of the National Spatial Development Strategy is that Trinidad and Tobago should choose what is called ‘harmonized regional development’ (in between the two others). The examination is done well and the conclusion is appropriate, even if seemingly obvious. What this means however needs considerable spelling out. Each of the 18 goals is weighted the same. The rationale for this weighting is also not spelled out, and could be questioned.

Annex 1 shows the indicators by which the various sustainability objectives need to be measured. These indicators are incomplete. Part of the problem is that the objectives here are very generic, and the decision-making criteria are written in unspecified language as questions. From the survey there are very specific problems and data that are therefore missed. As such, the indicators do not cover the entire range of the objectives, and without having targets it is hard to know what are the policy implications.

Specifically:

- The first objective (to encourage strong, diverse and sustainable economic growth) has all its indicators directed towards ‘strong’ and to some extent a ‘diverse’ economy, but none towards a ‘sustainable’ economy, perhaps assuming that strong and diverse economies are the most sustainable. This needs arguing.
- The second objective (to create high, stable and equitable levels of employment) would benefit from an assessment of employment and unemployment by sector and education level as well.
- The third objective (to enable all children, young people and adults to achieve their full potential and maximize the skills levels of the residents of Trinidad and Tobago) is assessed mainly through conventional formal education-parameters. We would recommend that alternative learning trajectories should also be built into the national plan and accordingly measured.
- The fourth objective (to ensure that everyone in Trinidad and Tobago has the opportunity of a decent and affordable home in the community in which they want to live) could have an assessment metric added in relation to the reduction of squatting by both the poor and the semi-legal.
- The fifth objective (to improve the quality of life of the residents of Trinidad and Tobago) needs a broader scope. To be able to assess this objective, indicators should be given at a disaggregate level (administrative area is too high-level an aggregate). The normal ‘quality of life’ definition is much wider than what is used here, and includes subjective assessment of situation, wellbeing, sense of cultural meaning, for example.
- The sixth objective (to improve equity and social justice and promote inclusion and access) has all the indicators focusing on gender, leaving out questions of the urban/rural, and rich/poor divides. Nothing is formulated on access to key services and cultural and leisure activities.
- The eighth objective (to ensure that development that meets the needs of today should not restrict the choices and opportunities for future generations) needs an assessment of differences by different generations.
- The twelfth objective (to address the causes and effects of climate change and minimize greenhouse gas emissions) has all its indicators directed to greenhouse emissions. This is not enough. Political indicators measuring programs conducted to institute change should be considered.
- The fifteenth objective (to protect and enhance the built quality of urban areas, villages and the spaces within them) is perhaps missing an indicator that assesses the adequate design of new buildings, constructions, and infrastructure development.

Annex 2 elaborates on the relation between the sustainability goals and the planning scenarios. This is elaborate and done well.
The volume *Surveying the Scene* aims to provide the evidence on which the NSDS should be based. It does so through the identification of issues, facts and information in five domains: population and settlement; society and culture; the economy; the environment; and, infrastructure. Each section is closed with a link to specific policies in the spatial analysis. Overall, this volume is clearly written and targets the main important issues.

In many cases, however, the problems and parameters could be given much more attention and then related to how planning could be able to address it. As such there is a risk in the current Development Strategy that policies will not target specific issues but more general relations. For example in the health section, increasing life expectancy is given as a positive trend before addressing questions of how to achieve better lifestyle. Major health problems in Trinidad and Tobago are thus smoothed over. Within the section on culture there is a need for explicit discussion of values and meanings regarding housing, environment, sustainability and transport. There are, for example, very strong views in Trinidad and Tobago on the practical importance and status-conferring centrality of cars in people’s lives. These values skew transport use and therefore current planning. Ideally they should be addressed directly through public cultural dialogue, art projects, schools activities or media debate about the centrality of cars and an automobile culture on the islands. Similarly the idea of having a single house on a single
allotment is seen as culturally paramount in Trinidad and Tobago. This has negative consequences for the possibility of planning higher density around transport nodes (despite the Strategy being right about what should happen). This cultural issue could be addressed, for example, through exemplary pilot projects in which small, well-designed and publicly proclaimed multi-storey residential buildings are developed by the government for social and mixed housing. Cultural issues are discussed across the National Spatial Development Strategy document, but addressing them under one heading would have been more feasible. As such addressing them through a specific set of policies in the NSDS would have been more feasible.

One key issue that needs to be tackled in further work is a review of the governance issues in the political domain. This would feed into the process of implementing policy rather than the content of that policy.

Population and Settlement Distribution

Population issues for the nation are pressing. Trinidad and Tobago has an aging population; a large majority of Trinidad’s population, close to 87 per cent, live in the west; the populations in the core of major urban centres are reducing in size and the country is witnessing urban sprawl and uncontained ribbon development along the main roads; population growth is predominantly in the North-South and East-West corridor. These issues are all implied in the graphs and figures. However, given their consequences for policy, these are issues that in later more detailed assessments of policy development would need to be brought into contention more explicitly. The discussion of geographic distribution should ideally indicate, briefly, whether regional disparities are getting wider. This is covered later in the text but a mention early on is worthwhile, particularly given the shift proposed from regional balance to growth pole strategies.

Reference is made to inequality and the Human Development Index, suggesting that poverty in the rural east is much higher than in urban areas. The existence of pockets of poverty in the urban area is rightly acknowledged. However, it should be noted that poverty-assessment tend to be biased and tends to exclude urban specificities of poverty. People living urban settings tend to rely on full-cash economies with cash income as their only source of material consumption. Hence urban incomes need to be higher than rural incomes where income in kind and food production is part of consumption. Lower rural incomes thus do not necessarily indicate more poverty. Moreover, the HAD has assessed poverty at an aggregate level. Our understanding is that poverty and wealth are both present throughout the country and spatially concentrated in ‘pockets’ and neighbourhoods. This spatial inequality is somewhat underexposed in the analyses in the National Spatial Development Strategy.

Society and Culture

There is an appropriate reference to crime-peaks and the link between crime and the form of the built-environment. What is missing is a link to perceptions of crime and the effect on planning of cultures of fear. The evidence suggests that strong links exist between fear, exclusion and the built environment in the Caribbean. The relation between the built environment and crime maybe even stronger than is currently acknowledged in the Strategy.

The Strategy rightly relates the role of the NSDS to other actions taken in poverty reduction and creating the right environment for it. Nevertheless, a lack of specificity in gender and age difference in poverty leaves this section very general. It would be good to define the poverty measure, or at least say which version it is.

In relation to health, no specific issues are given (death causes, obesity rates, etc.) and the conditions for a healthy lifestyle and how planning relates to that are ranged over with unspecified generality. The National Spatial Development Strategy overlooks some important specific issues here that are becoming critical in Trinidad and Tobago: weight issues and lack of exercise; food prices; and the quality of water
and air. A final issue that needs to be addressed directly is that the pressing problem of SIDS in Trinidad and Tobago. It needs to be recognized more explicitly with its specific economic, ecological, political and, above all, cultural determinants, implications and consequences spelled out.

A further issue here in relation to health concerns the question, what is meant by ‘planning’. Does it mean territorial/urban and/or regional planning? If however ‘planning’ means more comprehensive national planning, then health-sector planning is the key driver, and there are well-developed taxonomies globally of good measures to cover, many of them also with territorial expressions, that could be drawn upon to systematize the Strategy.

In relation to education, further issues include the targets of the government to increase attainment levels, the link of education to the labour market and the T&T ‘Brain Drain’ (not the high drop-out rate, strangely, or the lack of vocational training institutes).

The discussion of cultural heritage could give much more weight to festivals such as Carnivale and the Trinidad-and-Tobago music traditions.

**Economy**

A synoptic picture of economy as a whole has to begin with oil and natural gas. As the *National Spatial Development Strategy* describes it contributes 40 per cent of GDP and only accounts for 3 per cent of employment. With a tiny agricultural and manufacturing base the economy of Trinidad and Tobago is a consumption-based economy with a large service sector rather than broad production-based economy. This colours everything else in the economic domain. We concur with the importance stressed in the *Strategy* of diversifying the manufacturing sector and the possibilities of cluster development, keeping in mind however the importance of designing the industrial landscape with ‘patchwork’ zoning to allow as many people as possible to live close to work. Presently, Trinidad and Tobago is developing large unintegrated industrial zones. It is also worth pointing out that present development is being allowed to occur in high-risk flood zones, a situation that will be exacerbated with climate change.

We also concur with the concern expressed in the *National Spatial Development Strategy* that Trinidad and Tobago is ranked in the top five countries in the world for carbon output per person. This is extraordinary, even assuming that the statistics used are for carbon emissions are as emitted in Trinidad and Tobago not as embodied in energy exports. If energy exports are added this becomes even worse. The graph showing ‘Energy use per $1,000 GDP later in the *Strategy* report is a particularly powerful visual image of the problem and we commend the report writers on bringing this to our attention.

Agriculture is in decline but ambitions to develop this come into considerable conflict over land for residential use and the spreading urban footprint. Maintaining at least the existing level and placement of agricultural land is crucial to the future of Trinidad and Tobago. In order to protect agricultural land we would recommend the urgent institution of clear, well-policied and well-publicized urban growth boundaries, together with incentives for urban consolidation and increased density around transport interchanges and stations. The current land-use control regulations are being overridden by irregular settlement.

The analysis of the economy would be helped by a finer more detailed industry employment and/or GDP contribution pie chart, especially if there are forecasts available. The analysis begs the question, ‘What will an innovation-driven economy look like?’ Trinidad and Tobago is currently ranked one of the least innovative business environments in the world, and it would important to project a picture of what the industry structure looks like in transition.

**Environment**
The National Spatial Development Strategy is strong on environmental analysis. There is mapping of a range of protected eco–systems and the problem of unregulated use of land, mostly by urbanization, that is particularly harmful to the northern range. Climate change issues are rightly taken very seriously. One area that is left out is the importance of focusing on the tension between government and private owners in these eco-systems. It needs to be firmly acknowledged.

**Infrastructure**

With a background of no rail system (closed down in the 1960s), many roads, constant traffic jams, and heavy car-use, the response given by the Strategy to focus on transport is appropriate. We concur that ‘The solution requires coordination between the use and development of land and the provision of transport infrastructure so as to reduce traffic congestion and promote more efficient, less wasteful and less polluting modes and patterns of travel.’

Beyond that suggestion there is much more to be done as the Strategy details. In the estimation of the National Spatial Development Strategy the causes of high car-use in Trinidad and Tobago are manifold, including a vast range of economic, political, ecological and cultural issues: subsidized premium gasoline, cheap imported used-vehicles, lack of co-ordination of public transport, lack of quality interchange facilities, ribbon housing, the concentration of business development on the main highway corridors, fear of crime, and a cultural response to a tropical climate which makes bike-riding seem unnecessary or uncomfortable. Focussing on transits, public transport, and air links is this regard is only a starting point.

Low-cost and readily available energy has been both an advantage and a disadvantage for Trinidad and Tobago. There is, as the National Spatial Development Strategy suggests, a clear need to build renewable energy infrastructure. Again the graph showing ‘Energy use per $1,000 GDP is particularly a powerful visual image of the problem.'
As a spatial development strategy, as distinct from a physical development plan, the National Spatial Development Strategy takes a more strategic view, providing a strategic national framework, focusing on clear and logical spatial planning principles and policies. It provides guidance to be followed when the Tobago House of Assembly and municipal councils are reviewing and preparing detailed Spatial Development Plans for their areas and when decisions are being made on specific development proposals. It provides a broad spatial development context for key infrastructure and investment decisions. The idea is that plans are worked out in detail at regional/municipal level, (decentralization). This is all good.

There are, however, concerns that need to be highlighted in relation to governance. The nature of the governance structure, and associated challenges such as limited capabilities at municipal level (there is one planner in the POS municipal corporation, for example) need to be acknowledged. There are not strong links between the central and local governments. The role of private sector is complicated. In short, the entire governance issue needs to be developed in an additional planning document and we recommend this strongly for future work.

- The plan is well based and properly linked to various other policy documents and reports that are being used by the government.
• The vision starts with a future scenario. It is an ambitious scenario. That in itself is not problematic, but discussion of the economic and political planning parameters for this scenario are important. It does not do that in relation to such issues as fluctuating oil prices and disasters.

• The strategy has 13 objectives under three themes (strong and resilient communities; sustainable prosperity; sustainable infrastructure). These have been properly tested against sustainability objectives (see ISA methodological report). Within the strong community goal, we might have also expected a goal focusing on social and healthy environments (open spaces, services and activities); within sustainable infrastructure, water is not seen as a target problem.

Harmonized Regional Development

The National Spatial Development Strategy introduces the harmonized regional development strategy again and argues it is the best way to match the goals of other national and sub-national policies: sustainable and equitable levels of economic prosperity and employment; diversification of the economy away from dependence on hydrocarbon-based sectors towards priority strategic sectors such as maritime, tourism, agriculture, and cultural and knowledge-based industries; overall improvement in quality of life for most citizens; reduced disparity between rich and poor and less social exclusion; improved accessibility to employment opportunities, service provision and cultural and recreational facilities; and, a sustainable relationship between economic and social activities and the natural environment. We repeat those objectives here to acknowledge how important they are to the future of Trinidad and Tobago.

The Strategy rightly states that the core objectives need to be addressed in an integrative and holistic way, raising the question of perceptions and attitudes. These cultural-political aspects of life on Trinidad and Tobago are largely absent from the other documents and, in future work, elaboration of this in relation to policy should be a priority.

‘Policy 1. Supporting Sustainable Development’ is more a ‘how to’ policy. As part of the approach, Policy 1” speaks of the concept of ‘Development Management’. It all sounds reasonable but it needs to be considered directly in relation to the governance and planning practice in Trinidad and Tobago. Without considerable attention in the governance and planning area it is not realistic in the context of small government, informality, dominant central government, etc.

• Theme: strong and resilient communities: a) building strong and diverse communities: addresses this holistically, with understanding of the complexity in addressing this; b) building places for people (urban form, spatial an urban design; delivering the homes we need; valuating our cultural history). Overall within this theme, our belief is that descriptions are accurate and the formulated policies make sense. Including specific implementation strategies to be incorporated by local authorities.

• Theme: sustainable prosperity (building a competitive, innovation driven economy; achieving food security; maintaining our eco-systems; meeting the challenges of climate change); the policies accompanying these again are coherent and solid. Potential conflicts between partners and actors need to be acknowledged and addressed explicitly.

• Theme: sustainable infrastructure (moving towards sustainable transport; making the most of information and communication technologies; generating and using energy sustainability; managing waste safely and efficiently). The policies a missing a discussion on education and changing norms and values.

Policies 1–24, including ‘Designing and Creating Places for People’ are self-evidently positive and the suggestions are helpful without developing much specificity about how it could be done in Trinidad and Tobago. The recommendations for ‘Implementation’ are all viable and important. Instead of going through each of the policies in turn, we will incorporate responses into our general comments to follow.
General Comments

The strategy presented is a coherent story based on a relatively strong logical framework that runs through all three documents. The choice for the harmonized regional planning strategy makes a lot of sense.

The choice is made for a strategy at a rather abstract level that should inform the more specific plans that need to be developed at the regional level.

A general vision is necessary and in this case it is delivered with a convincing story, however there are issues that need to be addressed in the next stage of planning and implementation:

1. In relation to Policy 11B we wondered if there are too many growth poles. Their spatial basis is explained, but their functional basis just a list of locally grounded opportunities. Evidence-based strategic thinking needs to map what the country’s economy look like in input-output terms? In other words, where are the ‘sweet spots’ in the functional structure of the economy, areas where a modest push would have multiplier effects? Generally, the growth-pole strategy needs another stage of planning development, and particularly an explication of the pathway for weaning the country off energy-export dependency.

2. The capabilities (human, financial, political) at the regional level to effectuate planning in Trinidad and Tobago are limited. Human capabilities at the local level are very limited (the Port of Spain city corporation has one to two planners at any time) and local revenue collection is limited, meaning that local corporations have very constrained means. The national government often strongly influences politics and governance decisions at the local level (for example, in relation to the waterfront development in Port of Spain). Similarly private-sector agents may be much stronger than local authorities. The next stage of the National Spatial Development Strategy needs to address how the regional level will be able to take up the role granted to them.
3. The policies and regional guidance is careful and properly general, but in the next stage of the planning process the generic suggestions need to be followed up and specified in considerable detail.

4. Similarly, the legal context and problem setting of planning needs to be discussed in further developments that build upon the National Spatial Development Strategy and link back to the strategy. This is a basic condition of making the strategy work successfully in Trinidad and Tobago.

5. Decisions need to be made about indicators and targets, building on the work already done in the National Spatial Development Strategy.

6. The strategy is very ambitious, complex and integrative and addressing many objectives through policies. Now work needs to occur in the related area of priority setting and detailed scenario building. The human, temporal, and financial means to accomplish all of these may be limited. In addition, unforeseen events such as declining oil prices, a coup, an earthquake, etc., may change the scene completely. Given that the best laid plans are bound to face unforeseen circumstances, a ranking of priorities in goals and/or guideline to revise plans becomes doubly necessary. A partial implementation of the strategy in the wrong order may be counterproductive to the excellent sustainability objectives that the National Spatial Development Strategy currently recommends.

7. Stakeholders (companies, communities, families and individuals) have norms and values that guide their spatial behaviour, including mobility, housing, and use of services, etc. These affect many of the objectives that have been set in the Strategy. There is now an urgent need to do follow up work on norms and values in Trinidad and Tobago, discussing the various issues at stake relate to the policies as generically approached in the Strategy. A coherent and distinct acknowledgment of the importance of norms, values and practices in the spatial behaviour of people, and thus their contribution to problems and solutions is warranted.

Improvement of the lives of citizens through a spatial development program is always a challenge. A wide range of factors determine the chances of success, but perhaps the best outcomes can be achieved through the integration of the disparate issues that impinge on the process and its potential effects. Apart from the need for protection of the natural environment, in any attempt at spatial development for the purposes of economic and environmental sustainability, key factors are health, education and the alleviation of poverty. Issues to do with the role of gender in development should also be included. Human wellbeing may be multifaceted but is directly linked to the social and natural environment. The success of spatial development project should particularly take into account the following factors:

**Crime**

Notwithstanding the economic gains made over the last decade, escalating crime seriously threatens the Republic’s development agenda as it affects both individuals and whole communities. Spatial development strategies should include the development of an attractive well-maintained built environment, in both rural and urban areas, the provision of effective street lighting, safe public transport, well-lit public areas, and police presence, amongst others. Community safety and security should be part of any spatial development plan and must be treated as paramount. Encouraging the development of inclusive community groups to monitor their own issues would be a helpful step. The flow of illegal guns and the drug trade are cases in point that might retard progress or confound a unified commitment to the reduction in crime rates.

**Poverty**

While the Republic of Trinidad and Tobago is a high-income country due to reserves natural gas, petroleum and asphalt of there is still a significant proportion (by some estimates 22 per cent) of people considered to be poor. It should not be forgotten that changes in eco-system functioning that might be the result of economic development have a greater influence on the welfare of poorer populations. The link between gender and poverty is a factor that might impede the chances for success. The realignment of spatial arrangements should be taken into account in this context.
Health

The presence of HIV/AIDS, the need for control mechanisms and the introduction of effective testing should accompany a program of management and an increase in trained staff. Child health and general population health should be seen in the context of reducing air pollution, food security, access to medical treatment, immunization programs, the encouragement of exercise and personal security.

Gender and Development

The Gender and Development paradigm is now thought to be one of the most effective approaches to achieving equitable and sustainable economic development with a strong cultural component. It demands a consideration of both women’s and men’s roles and responsibilities within the community and their relations to each other. Improving the status of women is not ‘a women’s issue’, but a key to continuing effective utilization of resources and sustainable development. Women have the same legal rights as men but violence against women in Trinidad and Tobago is a serious problem. Linking gender to development needs to take seriously equal pay for women, a reduction in domestic violence, accessible childcare, provision of gynaecological care, and the education of girls.

In 2011 the UNICEF, UN-Habitat and UN Women launched the ‘Safe and Friendly Cities for All’, initiative, a five-year program that aims at making women and children feel safer in their local neighbourhoods, while improving their quality of life. Local interventions might include the following: ensuring the engagement of women, youth and children in budget decision-making processes for infrastructure and services in their neighbourhoods; building capacity of young people and local women leaders to contribute to sustainable urban development policies and infra-structure; engaging women, young people and children to identify factors that create risk and insecurity including sexual harassment and violence against women and girls in public spaces.
Appendix 1.

Circles of Sustainability

The ‘Circles of Sustainability’ approach provides a way of achieving urban sustainability and resilience that combines qualitative with quantitative indicators. It sets up a conceptual and technology-supported approach with guiding tools for investigating problems faced by communities, and does so in such a way as to be flexibly applicable across the very different contexts of a city, community, or organization. It is particularly sensitive to the need for negotiation from the local level to the global. The method has been used in various cities around the world.

Domains, Perspectives and Aspects
Each of the social domains—ecology, economics, politics and culture—can analytically be divided in the ‘perspectives’. In an earlier stage of our thinking, these perspectives were called ‘subdomains’, but the less formalistic metaphor of perspectives works better to register the interconnected nature of any of these provisional subdivisions. It emphasizes the issue that the subdivisions are points of view; not categorically separate or standalone categories.

For example, the cultural perspective of ‘Enquiry and Learning’ reaches out to all the other domains in relation to enquiring about economics, politics and ecology, even though we have located its primary home in the domain of culture. This can be seen graphically in the figure of the Circle of Sustainability (Figure 1 above). All perspectives are inter-related through the centre-point of the circle, sometimes tellingly in mathematics called ‘the origin’ of the circle. Each of the perspectives such as ‘organization and governance’ or ‘habitat and space’ is analytically derived using the same process that is used for working through broad considerations of the human condition to derive the four social domains.

This division, we suggest, becomes useful—and, no more or no less than useful—for giving a sense of the complexity of each of these domains and in turn of the human condition in general. It is against these perspectives, for example, that we map the questions in the urban profile and the social indicators drawing a connection between the qualitative and the quantitative. We understand that the process of setting up of a contingent ‘order of things’ has a long and troubled history. There are always problems associated with any such ordering. Thus we remain cautious about what can be claimed for such an
order. Nevertheless, given that such ordering is conventionally done so badly in sustainability assessment approaches such as the Triple Bottom Line, it is important that we go back to basics so that a contingent but more adequately grounded matrix can be set up.

In choosing the different perspectives a number of further considerations were kept in mind:

- Each of these domains and perspectives can be understood in both objective and subjective terms, but as soon as subjective issues or meaning are brought in it this entails a double thinking, connecting that domain or perspective to the relevant perspectives in the domain of culture.
- Each of these domains and perspectives can be understood in terms of ideologies, imaginaries, and ontologies (see Chapter 5 in the volume Sustainable Urban Futures.)
- Each of the perspectives is named in a way that, as much as possible, makes them meaningful within social settings constituted through the dominance of very different ontological formations. For example, ‘exchange and transfer’ is a perspective rather than the more limited modern subdomain of ‘finance and trade’. By the same reasoning ‘air and water’ is designated as a perspective rather than ‘greenhouse gases and ocean temperatures’, where the latter is the more modern abstract (and particular) naming of air and water based on contemporary acute concerns about climate change.

Based on this background thinking and extensive consultation across many cities we arrive at the set of four domains each with seven perspectives. This matrix is laid out in Table 2 below. Taking us back to the beginning, when applied to an assessment process, it gives us Figures 1 above.

Table 2. Social Domains and Perspectives

<table>
<thead>
<tr>
<th>Economics</th>
<th>Ecology</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Production and Resourcing</td>
<td>1. Materials and Energy</td>
</tr>
<tr>
<td>2. Exchange and Transfer</td>
<td>2. Water and Air</td>
</tr>
<tr>
<td>3. Accounting and Regulation</td>
<td>3. Flora and Fauna</td>
</tr>
<tr>
<td>4. Consumption and Use</td>
<td>4. Habitat and Settlements</td>
</tr>
<tr>
<td>5. Labour and Welfare</td>
<td>5. Built-Form and Transport</td>
</tr>
<tr>
<td>6. Technology and Infrastructure</td>
<td>6. Embodiment and Food</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Politics</th>
<th>Culture</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Organization and Governance</td>
<td>1. Identity and Engagement</td>
</tr>
<tr>
<td>2. Law and Justice</td>
<td>2. Creativity and Recreation</td>
</tr>
<tr>
<td>3. Communication and Critique</td>
<td>3. Memory and Projection</td>
</tr>
<tr>
<td>4. Representation and Negotiation</td>
<td>4. Beliefs and Ideas</td>
</tr>
<tr>
<td>5. Security and Accord</td>
<td>5. Gender and Generations</td>
</tr>
</tbody>
</table>

Defining Aspects of the Social Whole

Each of the perspectives is divided in seven aspects. The rationale for this is to generate a finer assessment process. While the figure of the circle, coloured according to levels of sustainability (Figure 1), gives a simple graphic representation of the outcome of an assessment process, there are a series of background considerations that need to be brought to the fore. A primary consideration involves having a way of assessing why, from a particular perspective, a city or locale is judged to have a certain level of sustainability. In the background to the graphic circle are sets of questions linked to social indicators. To decide systematically on what is a good range of questions the ‘Circles of Sustainability’ approach entails analytical dividing the perspectives into different aspects. For example, one aspect of the economic perspective of ‘production and resourcing’ is ‘manufacture and fabrication’. It is at this level of granularity that indicators become important.
Appendix 2.

The Scenario Projection Process

The future is uncertain and exploring uncertainties is one of the most difficult of all the planning processes. Planners and forecasters have become so bound up in a modern sense of time that the future is too often described as stretching from the present in a relatively consistent line of upward progress or downward failure. That is, the future is described as a line from the present based on trends that stretch from the past. This belief, partly a self-confirming one, is true enough (and therefore wrong enough) to be completely misleading. Metrics-based trajectories from the past to the present are only one indication of possible futures.

The method of scenario projection attempts to bring these issues to the fore. In particular, by acknowledging that different futures are possible, and that the future in part depends upon what we decide to do now, the method involves a process for exploring different scenarios and how a city might embrace or avoid certain projected possibilities. It is not an attempt to predict the future. It is a process for uncovering different uncertainties and negotiating what can be done about them.

Rather than focusing upon the development of singular normative scenarios of some aspired future, the variation developed here encourages the development of multiple scenarios that explore some of the limits of possibility for the future. In the first stage of any scenario process it is important to explore limits and uncertainties in order to ascertain the range of possibilities with which policy needs to deal. This requires the involvement of people from very different walks of life, including urban experts, coming together to argue about their perceptions of the city, the region and its possible futures.

The second stage of the approach involves setting up a session (again supported by urban experts) to explore an aspirational future working backwards within the range of possibilities elucidated. Both stages have the common feature of enabling individuals and groups to explore the limits of possibility for the unfolding of the issue under consideration over a specified time-scale, within the confines of what is currently known, knowable and plausible.

Actual implementation of the method may take place across a range of time-scales, from one day to several iterations over months. Whichever approach you adopt to conduct a scenario projection process, we provide a set of basic ground rules that should be followed closely. These set the context for challenging business-as-usual thinking, for supporting negotiated inclusiveness and for facilitating the expression of multiple viewpoints on the matter at hand. The ground rules are also intended to minimize the risk of inter-personal challenge and conflict between participants. If these rules are not followed, there is a risk of breakdown of the process, with some individuals becoming alienated and excluded and powerful actors dominating and closing down the discussion.

Developing a Scenario Projection Process

The following is a list of the main steps into which we sub-divide the first stage of a basic scenario process.

- **Step 1.** Setting the agenda—defining the issue and process and setting the scenario time-scale;
- **Step 2.** Determining the driving forces—working first individually then as a group;
- **Step 3.** Clustering the driving forces—group discussion to develop, test and name the clusters;
- **Step 4.** Defining the cluster outcomes—defining two extreme, but yet highly plausible, and hence, possible outcomes for each of the clusters over the scenario time-scale;
Step 5. Setting up an Impact/Uncertainty matrix—determining the key scenario factors;
Step 6. Framing the scenarios—defining the extreme outcomes of the key factors—and scoping the scenarios by building the set of broad descriptors for four scenarios; and
Step 7. Developing the scenarios—working in sub-groups to develop scenario story-lines, including key events, their chronological structure, and the who and why of what happens. This step is important to communicating the outcomes to the broader public.
Appendix 3.

Issue Ratification Process

The Issue Ratification Process is a process, designed to elicit the critical concerns, problems, questions, features and issues related to what has been identified as a general issue. The objective of this process is to generate a candidate list of critical issues, to understand the relationship between them, and to suggest possible indicators for measuring progress towards more vibrant sustainability—ecologically, economically, politically and culturally. Critical issues are particular aspects or processes that matter most in relation to the general issue—things that impact upon it or are affected by it. This work is part of the ‘Assess’ stage of any major project.

A general issue can be as broad as ‘the general social sustainability of our city’ or as narrow as the cultural sustainability of a particular project in a particular quarter, for example, ‘the sustainability of street-art and social life along the waterfront’. A general issue could appear to be simple, such as ‘resource-use by residents in the city’ or ‘constructing walking paths through the city’. A general issue could be a technical question such as ‘Will the provision of infrastructure for electric vehicles bring about higher sustainability?’

Even apparently simple issues are usually more complicated than they appear and benefit from careful management and active community and civic engagement to understand the critical issues that impact upon it and are affected by it.

The Issue Ratification Process is best conducted as a brainstorming session with a group of relevant people who have a critical interest or engagement with the general issue in question. These people should ideally be drawn from what we have formally called the Critical Reference Group, a group that has an ongoing advisory role in the overall project. The Critical Reference Group is appointed by the Management Group—namely, those who have overall responsibility for the project. The people involved in this exercise need not be all of the Critical Reference Group members, but it should represent representatives of key constituencies who have an interest in or engagement with the general issue. However, this process can also be conducted as a desk-based research process based on interviews with key constituents.

The Issue Ratification Process can later be used, if desired, to assign indicators of the state of a general issue in relation to its critical issues. Or, alternatively, the indicator selection process can be incorporated as an extension of the Issue Ratification process.

The Issue Ratification Process is a crucial step in the Circles of Sustainability assessment method. It occurs in the Definition stage—Stage 4.1 marked in blue below—of the overall process pathway that includes the following seven steps: engage, commit, assess, define, implement, measure, communicate.
Table 1. Simple Process Pathway (with the Definition-Choose Path Elaborated)

<table>
<thead>
<tr>
<th>Process Steps</th>
<th>Processes</th>
<th>Tools</th>
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<tbody>
<tr>
<td>1. Commit</td>
<td>Affirm</td>
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<td>Establish</td>
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<td>Resource</td>
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<td>2. Engage</td>
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<td>Entrust</td>
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<td></td>
<td>Empower</td>
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<td>3. Assess</td>
<td>Determine</td>
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<td>Analyse</td>
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<td></td>
<td>Research</td>
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<tr>
<td>4. Define</td>
<td>Choose</td>
<td>Issue Ratification Process</td>
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<tr>
<td></td>
<td>Identify</td>
<td>1. Define general issue</td>
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<td></td>
<td>Refine</td>
<td>2. Define general objective</td>
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<td>5. Implement</td>
<td>Enact</td>
<td>3. Choose critical issues</td>
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<td></td>
<td>Liaise</td>
<td>4. Choose critical objectives</td>
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<td></td>
<td>Review</td>
<td>5. Define tensions</td>
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<tr>
<td>6. Measure</td>
<td>Monitor</td>
<td>6. Choose indicators</td>
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<td></td>
<td>Reassess</td>
<td>7. Define indicator targets</td>
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<td>Evaluate</td>
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<td>7. Communicate</td>
<td>Publicize</td>
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<td>Report</td>
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<td>Advise</td>
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Independent Review of the National Spatial Development Strategy Reports for Trinidad and Tobago

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The United Nations Global Compact Cities Programme

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Trinidad and Tobago

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