Executive Summary
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1. The Challenge

As is known, a fundamental challenge facing humanity is to, on a practical and measurable level, address the challenges posed by poverty, inequality, spiralling population growth, and environmental degradation. In South Africa, these forces are particularly acute. Notwithstanding an internationally respected constitution, enabling legislation and exemplary socio-economic development and environmental policies these challenges are continuing to grow across the country. The reasons for this are complex and diverse.

The first overarching and strategic national development plan, namely the National Development Plan (NDP), was tabled during a joint sitting of Parliament on 15 August 2012. South Africa's developmental challenges and objectives for the period up to 2030 are comprehensively addressed in the plan. It is, inter alia, envisaged that South-Africa’s economy would have to grow three-fold in order to overcome the challenges facing the country. Equally challenging is that any socio-economic challenges have to be pursued in context of environmental sustainability and the need to address climate change.

In this report, the challenges prevalent in the Greater Stellenbosch are considered in context of the relevant legislation and government policy and in context of the role that the people of the area can play to address these in a spirit of partnership.

2. Sustainable Development – The Solution To The Challenge

Over recent years it has become clear that plans and strategies aimed at addressing poverty and inequality and reversing the cycle of environmental degradation would only materialize if sustainable development were adopted as an imperative for sustainability, stability and prosperity. Secondly, it has become clear that a culture should be developed that promotes a ‘development state’ which would, in turn, make a tangible and meaningful difference to both human well-being and
environmental integrity on all scales – from the local to the global. This is a central theme of this report.

The International Institute of Sustainable Development (IISD) points out that sustainable development requires one to view the world as a system – a system that connects space and time. The IISD furthermore states that sustainable development encapsulates two key concepts, namely:

- The concept of need, in particular the essential needs of the poor, to which overriding priority should be given.
- The idea of limitations imposed by the state of technology and social organization on the environment’s ability to meet present and future needs.

A systems approach to sustainability is advocated by the South African Government. In the National Framework on Sustainable Development July 2008 (NFSD) it is stated that ‘a systems approach to sustainability is one where the economic system, the socio-political system and the ecosystem are imbedded within each other, and then integrated through the governance system that holds all the other systems together in a legitimate regulatory framework. Sustainability implies the continuous and mutually compatible integration of these systems over time. Sustainable development means making sure that these systems remain mutually compatible as the key development challenges are met through specific actions and interventions to eradicate poverty and severe inequalities’ (NFSD, 2008).

The NFSD forms the basis of South Africa’s National Strategy and Action Plan for Sustainable Development (NSSD) (Department of Environmental Affairs, 2011). The NSSD provides for defined goals and strategic priorities to be given effect through structured interventions, such as strengthening sustainability principles in land use planning, reduction of ecological footprint of resource use on the globe, and creation of appropriate institutional frameworks to ensure efficient implementation.

3. A Global Framework For Addressing The Challenge - Unesco’s Man And The Biosphere Programme

In this report specific reference is made to the opportunities that exist for local people, as part of the global community, to promote sustainable development in context of, inter alia, UNESCO’s Man and the Biosphere (MaB) Programme. The MaB Programme was established 41 years ago. It is inter alia given effect through bioregional planning and biosphere reserves, both of which are applicable in the Greater Stellenbosch.

Biosphere reserves are terrestrial and/or marine areas comprising core conservation areas, buffer zones and transition zones. In terms UNESCO’s protocols, biosphere reserves have three globally-mandatory functions, namely a development function, a conservation function, and a logistical function.

During the past twelve years, three biosphere reserves have been established in the Western Cape, namely the Kogelberg Biosphere Reserve, Cape West Coast Biosphere Reserve and, most recently, the Cape Winelands Biosphere Reserve. The latter was listed on UNESCO’s World Network of Biosphere Reserves on 18 September 2007. It is premised on an intergovernmental and international agreement between the national, provincial and local spheres of government and UNESCO.

Greater Stellenbosch is located in the Cape Winelands Biosphere Reserve. The Stellenbosch Municipality played a leading role in the establishment of the biosphere reserve and is in an excellent position to facilitate the evolution of the latter into a global model of excellence. The Cape Winelands Biosphere Reserve shares a common boundary with the Kogelberg Biosphere Reserve, partially located in both the City of Cape Town and in
the Overstrand municipal areas. The epicentre of the Cape Floral Kingdom, one of six plant kingdoms of the world, is located in these two biosphere reserves. An ideal opportunity exists to give effect to the networking objective as contemplated in the MaB Programme, right at one's doorstep.

The Cape Winelands Biosphere Reserve and the Kogelberg Biosphere Reserve are linked to the Cape West Coast Biosphere Reserve and the Table Mountain World Heritage Site through existing natural corridors, primarily in the form of rivers and defined Critical Biodiversity Areas (CBAs). The Western Cape Provincial Government, more than 20 years ago, envisaged that the Table Mountain Chain should be listed as a biosphere reserve. The above areas, together with the adjoining urban areas, collectively represent a potential networking and co-operation system of global significance, especially, if considered in context of the Rio+20 objective to improve governance for sustainable development.

The ultimate goal of sustainable development is to contribute to global sustainability. Climate change represents a barrier that must be overcome to reach the goal of sustainability and this challenge forms an integral part of the MaB Programme. Specific focus has been placed on climate change by UNESCO in its MaB conference entitled ‘For life, for the future: biosphere reserves and climate change’, which took place in Dresden, Germany 28 June – 1 July 2011.

The preparation and practical implementation of a climate neutral strategy should therefore be a central objective of sustainable development objectives. Such a strategy would rely on the international knowledge base that has been developed over the past decades, and the implementation of innovative strategies and action plans in tandem with international programmes.

4. Capital - The Key Requirement For Sustainable Development

Sustainable development has to be financed – it simply does not happen on its own. In essence, this requires an understanding that the capital required for such purpose should not, as conventional thinking dictates, be limited to monetary capital alone. To monetary capital one must add environmental, infrastructural and social capital. In order to finance sustainable development these four forms of capital should be strategically aligned and employed. This is a central principle of the Provincial Spatial Development Framework (PSDF) of the Western Cape. Innovative spatial/strategic, planning/design, organizational structures and specialized funding mechanisms are required to integrate and align these four forms of capital in a manner that increases the efficient employment of capital for sustainable development.

A critical objective is to grow/enhance capital to ensure that the ‘whole is greater than the sum of its parts’. ‘Surplus’ capital thus created, can be employed to finance the enhancement of human well-being and environmental integrity in a structured and sustainable manner.

5. Opportunities Vested In Legislation And Policy

For the Greater Stellenbosch a unique opportunity exists to, within context of its own policy framework, undertake sustainable development in a manner that would be exemplary on all scales, from the local to the international, in context of the MaB Programme (having regard for the fact that the entire municipal area is located in a biosphere reserve).

It is however imperative that the strategy through which the above ideals are pursued is inclusive, integrated, coherent, stable and characterised by mutual respect and trust. In this regard, the provisions made in the Stellenbosch IDP pertaining to intergovernmental alignment, community participation, neighbourhood revitalization programme, area plans and the partnerships between the municipality and the Stellenbosch University, and business and community organizations, are major enabling instruments.

It is incumbent upon the private sector and communities to support the municipality and its partners in giving practical effect to sustainable development through the MaB Programme. To help facilitate sustainable development in the spirit of public-private partnerships, this office has developed a methodology referred to as a Sustainable Development Initiative (SDI). The principle
upon which the model is based is that sustainable development does not occur on its own – one must take the initiative to make it work and it has to be financed. Furthermore, a high degree of efficiency can be achieved if sustainable development principles are integrated into project planning, design and implementation and if innovative and appropriate organizational structures were established through which a meaningful portion of the proceeds of the enabling project is invested into the promotion of human well-being and environmental integrity.

6. Policy And Legislative Framework

The current international position pertaining to sustainable development is encapsulated in the United Nations Rio + 20 conference declaration of 22 June 2012. As a UN member state South Africa’s commitments are incorporated into the NSSD for the period 2011-2014. The NSSD is an overarching framework within which programmes, such as the MaB Programme, should be considered.

In order to promote co-ordinated province-wide approaches to sustainable development and also to establish a structured framework for the planning and management of resources, provincial and local governments, over the past 15 years, prepared integrated socio-economic and spatial planning policies and plans in terms of national and provincial statutes. The overarching legislation that governs the promotion and implementation of sustainable development in the Western Cape is the Land Use Planning Ordinance (LUPO) 15 of 1985. The Western Cape Provincial Government is in the process of preparing new legislation that would address the challenge to give effect to sustainable development more efficiently. LUPO must be read together with a number of national statutes such as the National Environmental Management Act, (NEMA), the Development Facilitation Act (DFA), the Subdivision of Agricultural Land, the Conservation of Agricultural Resources Act, the Heritage Resources Act, etc.

The overarching spatial planning policy of the Western Cape is the PSDF that was prepared over the period 2005-2009. The PSDF was approved as an official provincial structure plan in June 2009, in terms of LUPO.
The PSDF was preceded by the Provincial Bioregional Planning Manual (2003). The bioregional planning approach was incorporated into and forms an integral part of the PSDF. The PSDF, read together with the provincial Bioregional Planning Manual, puts forward strategies specifically aimed at giving practical effect to sustainable development. The central goal of the PSDF is to provide guidelines for the improvement of human well-being and the enhancement of environmental integrity by employing resources in an efficient and just manner. Provincial policy on sustainable development and growing the Green Economy, should be considered in context of the Western Cape Government’s overarching 110% Green Initiative and the objective to develop the Western Cape as the Green Economic Hub of Africa. If the current polices and provincial commitments do not inform the planning and decision making processes required to enable sustainable development, the 110% Green Initiative could be seriously compromised.

It is important that the objectives of the PSDF be considered in the above context. The PSDF differentiates between monetary, environmental, social and infrastructural capital and emphasizes that, like all guidelines, the ‘PSDF must not be applied rigidly but in a developmental way that takes account of the particular circumstance of each case’ (PSDF, 2009 Chapter 1.3).

The PSDF stresses the need to recognise the consistency principle in socio-economic, environmental, spatial and development planning. It is therefore important to read the PSDF together with other provincial policies, strategies and guidelines such as those on climate change, economic development partnerships on the provincial scale, and the IDPs and SDFs on the district and local spheres of government. In terms of the provincial bioregional planning policy the PSDF provides for the demarcation of planning units, from the macro bio-geographical region down to the settlement and neighbourhood scales, in order to promote inclusivity and efficient public/private partnerships.

The PSDF incorporates local-scale spatial and design policies aimed at, inter alia, the promotion of the comparative economic advantages of the province and the protection and enhancement of the heritage resources vested in cultural landscapes such as the Cape
Winelands. It also contains guidelines pertaining to spatial planning and design in terms of the principles of critical regionalism i.e. sense of place, sense of nature, sense of craft, sense of history, and sense of limits. These guidelines have been incorporated into planning frameworks of Stellenbosch Municipality and are of great value in establishing co-ordinated approaches towards reconciling conflicts that often arise between development and environmental concerns.

The planning and management of the Cape Winelands Biosphere Reserve is guided by an international and intergovernmental agreement between South Africa and UNESCO endorsed by all stakeholders, including the Provincial Government of the Western Cape and Stellenbosch Municipality. In terms of the agreement all signatories are obliged to give effect to the following:

- Conservation (Contributing to the conservation of landscapes, ecosystems, species and genetic variation).
- Development (Fostering economic and human development, which is socio-culturally and ecologically sustainable).
- Logistical support (Supporting demonstration projects, environmental education and training, research and monitoring related to local, regional, national and global issues of conservation and sustainable development).
- Bioregional planning (Implementation of bioregional planning and management principles in all projects).
- UNESCO’s MaB Programme (Fostering sustainable economic and human development and environmental conservation).

In both policy and legislation the spatial and design dimensions, which affect the natural and built environment, are considered as key dimensions of sustainable development. Qualitative place-making can therefore be considered as a core value of sustainability and is therefore an imperative i.e. a ‘must do’. As such, qualitative place-making can be considered as an ethical value that underpins both conservation and development. Qualitative place-making is a ‘must do’ for the Greater Stellenbosch which can only be achieved in the spirit of inclusivity and co-operation.

Special measures are required to protect and enhance the visual qualities of the built and cultural landscape and the natural environment which contains it. Consideration should be given to the adoption of municipal by-laws to ensure that effect would be given to the above objectives.

7. Model For Private Sector Involvement In Sustainable Development

As stated previously, it is incumbent on the private sector, land owners, communities and individuals to support the public sector with the planning and practical implementation of sustainable development. Such support could be given effect through the Sustainable Development Initiative (SDI) that has been developed by this office. The SDI model is a bespoke planning and implementation model for sustainable development on the project level.

The model is based on DMP’s Sustainability Platform which constitutes a comprehensive knowledge base and experience over decades in the disciplines of urban, regional and environmental planning, architecture, urban design, landscape architecture, environmental sciences, climate neutrality, and green economy, which is applied, in an integrated, coherent and practical manner, in the planning and implementation of projects with the objective to promote sustainability through sustainable development.

In accordance with the principles embedded in the Sustainability Platform the approach adopted in the SDI planning model is pro-active and value-based. In terms of the model the core objectives and interests pertaining to the planning, design and implementation of a project are identified and then it is demonstrated how these are to be achieved.

In the application of the model, consideration is given to how resources (capital) can be employed to fund projects which are to be implemented in terms of a dedicated vision and core objectives. The model furthermore requires that defined programmes be determined in an inclusive and integrated manner, that resources be strategically aligned and employed in a manner consistent with policy, and that economic drivers be
created to enable sustainable development. Finally, the outcomes of the SDI are measured against a pre-determined set of criteria and principles.

An SDI is planned and implemented in accordance with six distinct components that are applied in a cyclic and an iterative sequence (refer to the summary and the figure below). The relevant components are illustrated by the figure below.

**STRUCTURE OF THE SDI MODEL**

1. **FORMULATE A VISION FOR THE AREA**

2. **Use Resources efficiently and justly**
   - Environmental
   - Monetary
   - Infrastructural
   - Social

3. **Consider projects in terms of legislation & policy and spatial / design dimensions**

4. **Implement Projects in terms of selected Programmes**
   - Land Development
   - Community
   - Environment
   - Culture & Heritage
   - Agriculture
   - Tourism
   - Commerce

5. **Assess Sustainability and Desirability of Projects in terms of Efficiency and Justice**

6. **Adaptive management in terms of ISO 14001 Environmental Management System (EMS) that embodies concept of continual improvement**

The Structure of the SDI Model © Dennis Moss Partnership
8. Imperatives Addressed Through The SDI

8.1 Climate change

The SDI model includes a strategy to address climate change and promote climate neutrality which, ultimately, sets the development frontiers for humanity. Due to the range of expertise required, this office has engaged in on-going research into the subject with the London-based Investment Sustainability Delivery Consultancy (ISDC) to develop a climate neutral strategy and the financing of sustainable development.

8.2 Inclusivity

The two global themes that emanated from the Rio+20 UN Conference are to grow the green economy and to create the institutional framework for sustainable development. These cannot be achieved optimally on the local level without an appropriate organizational structure.

To encourage the involvement of the general public, communities and individuals in socio-economic development and environmental rehabilitation in the Cape Winelands Biosphere Reserve, the SDI model builds upon the policy direction and commitments in the PSDF and in the bioregional planning approach incorporated in the latter.

The bioregional planning approach recommends that municipalities demarcate specific geographic planning units such as settlement domains, neighbourhood areas, or where applicable, special management areas, on the scale where local interest would be best presented and participation would be most efficient. Stellenbosch IDP has created special structures for such areas to facilitate public-private partnerships. From the perspective of the SDI approach, these municipal organizational structures are considered critical instruments for sustainable development.

SDI planning and management is guided by the ‘triple bottom line’ approach that complies with the King III report on corporate governance (which generally follows the approach adopted by the Commonwealth Association for Corporate Governance). In addition, SDI planning and
management is guided by the views and principles of the World Council for Sustainable Development adopted at the 2002 World Summit on Sustainable Development and affirmed in the Rio+20 UN Conference. In particular, the SDI supports the World Business Council’s view that ‘given the scale of poverty today, the challenge of meeting present needs is urgent. Given the damage our past and present action may have upon our decedents, concern for future needs for environmental, human, social and other resources is compelling’.

The SDI model provides for supporting structures to be established at the community level and for empowering such structures by providing resources (capital) to invest into sustainable development projects. This can be achieved by ensuring that projects generate resources for such organizations to enable them to promote sustainable development.

9. Reflection And Conclusion

In his thought-provoking book Ecological Intelligence, Ian McCallum² explores the relationship between human beings and nature, and presents a compelling case for the need to develop a greater understanding of the evolutionary bonds that interconnect all forms of life. McCallum argues that the future of humans, as an interdependent species on earth, is precarious and that it is difficult to name a force quite as threatening to the planet as growing human population which increases pressure on land and resources.

Across the globe, these challenges are addressed by promoting development and economic growth which are usually expressed as Gross Domestic Product (GDP). The latter is considered the primary index for the measurement of progress. It is however the non-sustainability of specific forms of development and growth which is the root cause of the challenges and it is clear that human well-being cannot be adequately expressed by a GDP index only.

In the 2012 edition of WWF’s Living Planet Report it is shown that humans are using 50% more resources than the Earth can provide. The world is clearly on an unsustainable trajectory and action is urgently required to bring standards of living and sustainability into
equilibrium. To obtain a clearer picture of progress, GDP should ideally be read together with other indices such as the Human Development Index (HDI) and the Multidimensional Poverty Index (MPI). A measurement of progress can also be improved by decoupling natural resource use and environmental impacts from economic growth, as is proposed by UNEP’s (United Nations Environmental Programme) International Resource Panel (www.unep.org/resourcepanel/decoupling). If the above instruments were not considered in the measurement of progress, a false sense of security could arise and prevail.

In A Short History of Progress, Ronald Wright³ traces the rise and fall of early man from the Paleolithic (Early Stone Age) hunters through successive periods of various civilizations. He shows how ‘progress’, time and time again, has resulted in a collapse caused by the common denominator of living beyond the carrying capacity of supporting ecosystems. He compares the progress made by the Paleolithic hunters, who learned to kill two mammoths instead of one, and then learned how to kill 200 (by driving a whole herd over a cliff), with the fishing methods of modern bottom trawlers, which he argues, is basically the same principle. Old habits die hard! Why is this so?

McCallum points to the subconscious mind where emotions, prejudices and ideas are deeply entrenched and refers to the concept of the human-nature split where humans have placed themselves at the apex of creation. He asks the question whether humans would be willing to come off this pedestal and whether the self-destructive trend can be reversed. While doubt is expressed by McCallum that humans would give up their pedestal, he also recognises that humans can make choices that no other creature can. ‘We can choose to drift into oblivion, to turn our heads, pretending that we did not see, or we can refuse to be victims, as Oedipus⁴ did.

We can choose the hard path – the one that demands accountability - the one that demands that we give beauty and meaning in our own way to the Earth and to the countless living things that share it with us⁵.

There are signs that people are beginning to realize that such hard choices have to be made in order to ensure social stability, prosperity and environmental sustainability. Perhaps some encouragement can be taken from Malcolm Gladwell’s book The Tipping Point⁶ in which he investigated the phenomenon of how trends are sparked by a relatively minor input and then lead to paradigm shifts in society. The exemplary contributions made by individuals, communities and government to give practical effect to sustainable development could contribute towards a ‘tipping point’ being reached that would give rise to a culture that embraces the ethos of sustainability.

A new culture of sustainability should be rooted in real places and should be driven by people who make a tangible and exemplary difference to life. A historic precedent for this is ancient Athens. Bertrand Russell⁷ (1945) argues that the achievements of Athens in the age of Pericles (495 – 430 BC) were perhaps the most astonishing in all history. Under the stimulus of victory, wealth and the need for reconstruction, the people of Athens produced works which have been exemplary even down to modern times.

Now, 2500 years later, the modern challenge is one of global sustainability. The question arises whether it is possible for modern society to produce works of lasting meaning such as ancient Athens did. If modern society believed that this is not possible or if modern society were simply indifferent, there may once again be an age of despair ahead, as was so often experienced in human history. However, it need not be. As pointed out by McCallum - humans have the ability to choose.

Ancient Athens proved that a global culture can have its roots in small beginnings. Opportunities to make a difference on the local scale are abundant and mechanisms to network and communicate knowledge and success across the globe are common practice in modern times. In particular, it is encouraging to know that international commitments are in place in terms of numerous conventions, protocols and agreements pertaining to sustainable development. The World Network of Biosphere Reserves can play a decisive role in this regard and can help to facilitate the development of a culture of sustainability on all scales from the local to the global. Biosphere reserves therefore have a decisively important role to play in giving effect to sustainable development.
The Seville Strategy7 on Biosphere Reserves state that ‘rather than forming islands in a world increasingly affected by severe human impacts, biosphere reserves can become theatres for reconciling people and nature; they can bring knowledge of the past to the needs of the future; and they can demonstrate how to overcome the problems of the sectoral nature of our institutions. In short, biosphere reserves are much more than just protected areas’.

In the Western Cape, a meaningful contribution could be made by demonstrating how effect can be given to sustainable development and global sustainability on all scales by implementing the MaB Programme. Greater Stellenbosch can help lead the way and hopefully there will be future successes as it relates to sustainable development in the Cape Winelands Biosphere Reserve and its sister biosphere reserves that could, in years to come, be considered to be of similar significance to those achieved in Athens in the age of Pericles.

When planning and implementing sustainable development projects, it is important to recognise that the term development means different things to different people and that different perceptions often give rise to polarization and conflict. Whatever one’s view may be, the term, in essence, implies the way in which resources are mobilized, managed and coordinated.

While development is conventionally associated with economic processes, it should also be understood as a profoundly political process. Leftwich8 (2000) defines politics as ‘all the activities of conflict, cooperation and negotiation involved in the use, production and distribution of resources whether materials or ideal, whether at local, national or international levels or whether in the private or public domains’. He argues that ‘achieving cooperation and negotiation has always been much harder where the differences between interests, ideas and preferences have been sharp and hence less compatible’. Coordination of capacity is required to steer the process to ‘go this way instead of that, to do this and not that…’

In this report it is shown that a common objective that can unite conflicting views and reduce tension is to agree on the type of development that is to be pursued, to agree on the ethical values upon which it is based, and to give effect to it through the implementation of projects that have sustainability as a central goal. A key requirement is that all concerned should understand that the manner in which we settle the land and the way that we modify the natural environment through our resource uses mirror the values of past generations and those of the current generation, i.e. we are what we build.

If sustainable development were embedded in a culture it would shape economic and political systems which, in turn, would strengthen a culture of sustainability. For this to realize in practice, society need working examples of sustainable development. The private sector (business communities and individuals) should support government on local, provincial and national spheres to plan and implement successful working examples for sustainable development.

While the task is vexing and complex, Stellenbosch Municipality is not alone in its efforts. In terms of the MaB Programme, co-operation and support can be obtained on all scales from the international to the local, and from the people of the Greater Stellenbosch. Of particular significance is the positive role that Stellenbosch University plays in the promotion and practical implementation of sustainable development in partnership with Stellenbosch Municipality, the private sector, and communities in general as is referred to in the overview to this report. Agreements between the municipality and the university provide the required framework for co-operation.

The Greater Stellenbosch has the opportunity to contribute significantly to the development of an understanding of how the challenges of our time can be addressed and how to give practical effect to sustainable development on the local scale in a manner that would resonate positively on the provincial, national and international scales. The opportunity to do so, within the context of the MaB Programme is unprecedented in the history of the Greater Stellenbosch - it is unique and profound.

The sustainable development has not yet been optimized in the Greater Stellenbosch. Having regard for the exemplary progress that has been made as it relates to
building a new identity and foundation for the Greater Stellenbosch, and for the fact that an international agreement with UNESCO is in place to give effect to sustainable development in a structured and integrated manner, the time has never been better to do so.

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1 Provincial Government of the Western Cape (PGWC), 2003: Manual for the application of bioregional planning in the Western Cape. Department of Environmental Affairs and Development Planning.
4 In a Greek myth written by Sophocles, Oedipus who, in addition to his self-imposed banishment from his kingdom, decreed that his own eyes be put out for-unwillingly killing his father and marrying his mother and then defending this action (blinding himself) by claiming that he should have known and that he therefore has no excuse (McCallum, 2005: pp. 158).
7 UNESCO organized the International Conference on Biosphere Reserves at the invitation of the Spanish authorities in Seville (Spain) from 20 to 25 March 1995. The Conference was organized to enable an evaluation of the experience in implementing the 1984, Action Plan, a reflection on the role for biosphere reserves in the context of the 21st century (which gave rise to the vision statement) and the elaboration of a draft Statutory Framework for the World Network.