

Bridging Guyana's Mining Sector with its Low Carbon Development Path:
Stimulating Multi-Stakeholder Dialogue – Facilitating Convergence

Hosted by

The Private Sector Commission of Guyana

In collaboration with

Conservation International-Guyana and World Wildlife Fund (WWF) Guianas

STAKEHOLDER FORUM REPORT



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Acknowledgements

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The organizers wish to acknowledge the attendance and participation of the Hon. Samuel Hinds, Prime Minister and Hon. Robert Persaud, Minister of Natural Resources and the Environment. The participants of the February 2013 initial stakeholder dialogue meeting are extended a special acknowledgment for their participation in shaping today's forum, notably the Guyana Gold and Diamond Miners Association, Amerindian Peoples Association, and Guyanese Organization for Indigenous Peoples.

Last, though certainly not least, the organizers also wish to thank all those who participated in the forum for their valuable time, expertise, and insightful contributions to the dialogue of the forum and, more broadly, to the shared objective of improving Guyana's extractive sector.

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Acronyms and Abbreviations

APA	<i>Amerindian Peoples Association</i>
CI	Conservation International
CIDA	Canadian International Development Agency
EIS	Extractive Industry Sector
EPA	Environmental Protection Agency
GGDMA	Guyana Gold and Diamond Miners Association
GGMC	Guyana Geology and Mines Commission
GLSC	Guyana Lands and Survey Commission
MoAA	Ministry of Amerindian Affairs
PAHO	Pan American Health Organization
LCDS	Low Carbon Development Strategy
TAAMOG	The Amerindian Action Movement of Guyana
UG	University of Guyana
UNICEF	United Nations Children's Fund
WWF	World Wildlife Fund

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Preface

Guyana's Low Carbon Development Strategy (LCDS) was launched in June 2009. The strategy provides a framework for Guyana to transition into a low carbon economy while still attaining its national socio-economic development goals. Guyana's extractive industry is an important economic sector, as gold and diamond mining contributes a significant percentage of the national Gross Domestic Product (GDP) and provides employment and export earnings to the country. However, the extractive industry can be considered inherently inimical to a development strategy aimed at deploying Guyana's forest to address climate change.

This situation, which has raised concerns among a number of key extractive industry stakeholders, has highlighted the need for dialogue on how to foster convergence between the strategy on the one hand and the extractive industry on the other, as Guyana's transitions to a low carbon economy.

In an effort to initiate dialogue, CI-Guyana and WWF Guianas in collaboration with Projekt-Consult GmbH, commissioned a white paper titled, "Guyana's Extractive Industry Sector (EIS): A Synopsis of the Issues and Recommendations for the Mining Sector as a Sustainable Element of Guyana's Low Carbon Development Strategy (LCDS)." The paper proposed a multi-stakeholder platform that would enable exchange of information, establish common understandings, and ultimately promote the development of a set of benchmarks for responsible mining.

On January 29th, 2013, as part of the first stage of the stakeholder engagement process, an initial meeting was held with technical officers of the Guyana Gold and Diamond Mining Association (GGDMA) and the Guyana Geology and Mines Commissions (GGMC). On February 1st 2013, the findings from this meeting were presented and discussed. This session report details a July 19th 2013 Stakeholder Forum, which sought to discuss the issues presented in the white paper, and was aimed at gaining feedback from the stakeholders on how to proceed with the integration of the Extractive Sector and the LCDS.

1. Summary

This report provides a synopsis of the proceedings of the Multi-Stakeholder Dialogue involving Guyana's Extractive Industry Sector held in Georgetown Guyana on July 19th 2013. This consultation was hosted by the Private Sector Commission of Guyana in collaboration with CI-Guyana and WWF Guianas. Participants included representatives from a variety of government, nongovernmental organizations and individuals involved in the mining and forestry sectors, in particular, members of the Diplomatic Corps, together with members of civil society.

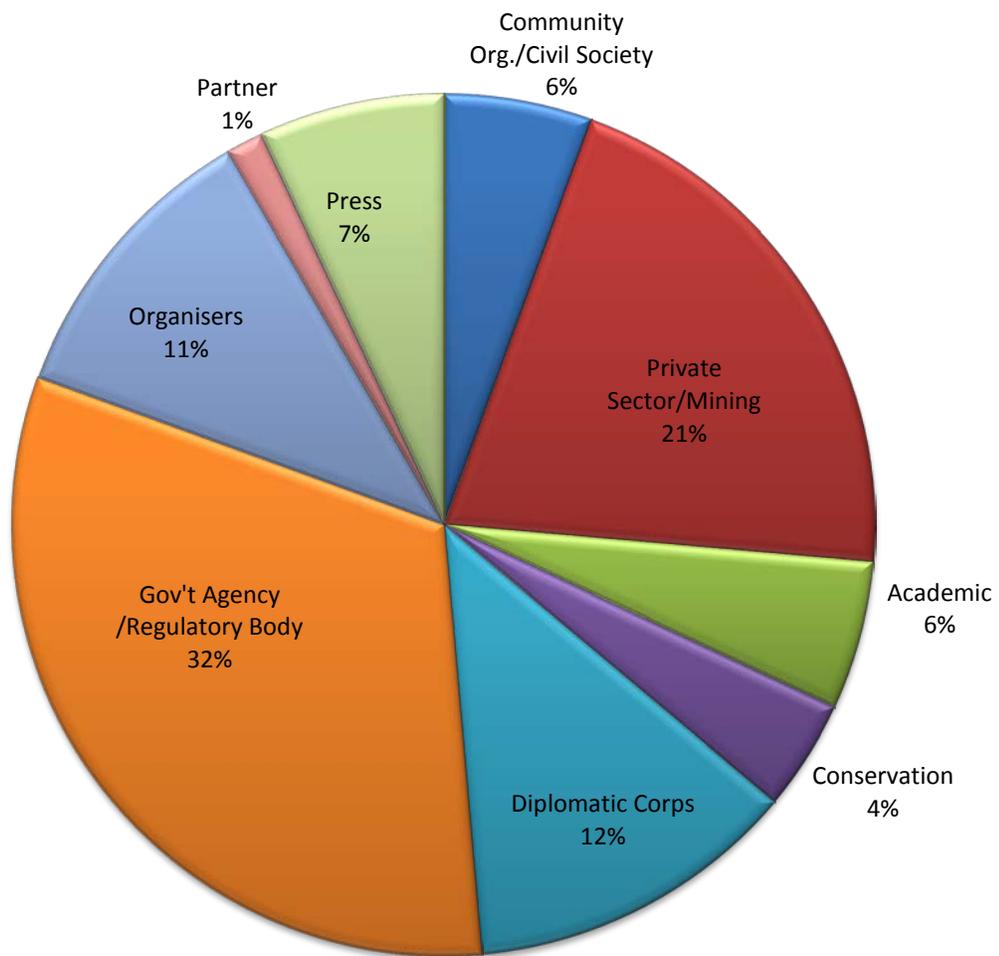
This stakeholder forum was based on the issues paper titled *“Guyana’s Extractive Industry Sector (EIS): A Synopsis of the Issues and Recommendations for the Mining Sector as a Sustainable Element of Guyana’s Low Carbon Development Strategy (LCDS)”* written collaboratively by CI-Guyana, WWF Guianas and Projekt-Consult GmbH (see [Appendix V](#) for executive summary of the paper).

Under the theme *“Bridging Guyana’s Mining Sector with its Low-Carbon Development Path: Stimulating Multi-Stakeholder Dialogue – Facilitating Convergence,”* the forum discussion centered on harmonization of the activities of the extractive sector with Guyana’s Low Carbon Development Strategy (LCDS). Key issues included: Policies in Relation to the Extractive Industry; Research and Development; Finance; Institutional Strengthening and Regulatory Frameworks.

Environmental degradation caused by the extractive sector and the impact of mining within the communities were also focused on. Receiving special attention was the phasing out of mercury use within the mining industry and the urgent need to find alternative and less hazardous methods of mining.

The forum commenced with remarks delivered by Hon. Robert Persaud, Minister of the Ministry of Natural Resources and the Environment, and Mr. Ronald Webster, Chairman of the Private Sector Commission. A presentation of the issues contained in the paper was then delivered by Dr. David Singh, Executive Director of Conservation International-Guyana. The major portion of the forum was then devoted to engaging the audience in an open discussion to obtain their feedback on how to move forward to integrate the extractive sector into the LCDS.

2. Analysis of Attendees by Sector



3. Summary of Remarks

Honorable Robert Persaud, *Minister of Natural Resources and the Environment*

Minister Persaud expressed his appreciation for the session's efforts to facilitate dialogue among the various entities on how to harmonize the activities of the extractive sector with the LCDS. He explained that in preparation for this session, a report had been prepared and comments invited. In making his remarks, Minister Persaud emphasized that the extractive sector must be in sync with the LCDS if it is to be viable and successful. In contextualizing the LCDS, he noted that in the beginning, those involved in the extractive sector saw the Strategy as an infringement on the sector; however this perception was removed over time and after much consultation.

Minister Persaud also referred to the "push-side" recommendations for the mining sector as outlined in the preparatory report and provided an update on the status of these recommendations, indicating that the paper was a useful tool or scorecard for measuring the Ministry's performance. He stated that as a first step in bridging the gap between the extractive industries and the LCDS, the government created the Ministry of Natural Resources and the Environment. This Ministry has brought together the sectors in the extractive industry to address their concerns and this has paved the way for the various stakeholders to work in a cohesive manner in ensuring balance between the utilization of resources and proper environmental management.



Minister Persaud then explained that another step taken was the creation of a commission that brought together the regulating agencies and the mining sector to examine how to address the impact of the LCDS on the small and medium scale operations and following this, the government policies regarding the extractive sector were reviewed and summarized and these are now available online. He stated that any future amendments to these policies will be done through an interactive process involving those concerned, that there are also two volumes of regulations relating to the mining sector, and that comments are still being received in relation to these.

He explained that additional action taken to harmonize the activities of the mining sector included the strengthening of the government authorities on natural resources management and the provision of support to these agencies to ensure integration in natural resources management. Prospective exploration was incentivized and many prospecting companies were granted concessions – including local prospectors. One area which has room for improvement however is the strengthening of the monitoring capacity of the regulating agencies. In relation to establishing a coordination platform between government agencies and local level administration, there were outreaches and sub-

committees formed at the central level, Ministry of Amerindian Affairs, etc. A database is also being developed to track and assess the impact of mining.

In providing comments on the “pull-side” recommendations for the mining sector, the Minister explained that the mechanisms for mediation are currently before the Guyana Geology and Mines Commission (GGMC) board and with regard to the development of guidelines and information on proper mining practice, numerous codes of practice exist. However, the Minister indicated that there needs to be follow-up to enforce compliance.

In making his general comments on the report, Minister Persaud noted that even though it has very useful information, it does not comprehensively address how best to integrate the extractive industry with the LCDS – Minister Persaud maintained that there is no clear framework or methodology for integration thus, while it diagnoses the situation and presents practical recommendations, it does not accomplish the next step of how to have a dynamic and sustainable extractive industry that fits into the LCDS. He further observed that the report is focused heavily towards the mining sector even though there are other extractive industries, such as forestry, noting that the LCDS is broad-based and, as such, the report should cover all of the extractive industries. Minister Persaud closed by expressing the hope that these issues will be addressed at today’s forum and also looked forward to the stakeholders advancing the potential of the LCDS. See *Appendix II* for complete text of Minister Persaud’s presentation.

Mr. Ronald Webster, Chairman, Private Sector Commission



Mr. Webster, in delivering his remarks, commenced by providing a definition of the word “sustainability”, which stated that it was consideration of the imperative to meet the needs of the present generation without compromising the future generation’s ability to meet their own needs. Thus, there is an intergenerational aspect and, in essence, it relates to equity and opportunities for maintaining well-being.

Mr. Webster further focused on small-scale mining which plays an important role in Guyana and stated that the sector, in his view has begun to evolve with the considerable investment in heavy equipment by miners. He expressed the hope that the new Ministry would bridge the gaps between the mining and forestry industries and ensure the protection of the environment, which is critical. He noted that globally, artisanal mining involves many more people than large scale mining and is known to provide employment for the world’s poor and while such miners continue to find innovative methods of operating, their recovery rate is poor since they continuously mine the same area.

He proceeded to assert that there is a need to develop a system and provide the infrastructure to ensure that the environment is protected. Mr. Webster suggested that GGMC should look into the efficiencies for small-scale and alluvial mining since there needs to be more investment in recovery, the financing of equipment, and the leasing of such equipment to operators. He noted that such leasing arrangements are very common at the global level and similar arrangements can be used for extractive recovery equipment to reduce wastage and that especially with the falling gold prices, the small-scale industry has to develop more efficient processes. He stated that Guyana also needs to follow up on having properly managed forest plantations since there is the need for a consistent product for the furniture industry.

Speaking on the LCDS, Mr. Webster referred to the World Bank's pursuit of opportunities for clean energy and its decision not to support agencies that engage in the burning of coal. In this light, Mr. Webster cautioned against a previous suggestion by the Guyana government that a coal burning generating plant would be a better choice than a hydro plant and emphasized the need to bear in mind that Guyana's energy systems are subsidized. Mr. Webster closed by expressing his concern over global warming which appears to be worse than it was previously thought to be. See *Appendix III* for complete text of Mr. Webster's presentation.

4. Presentation on Issues Paper

Dr. David Singh, *Executive Director, Conservation International-Guyana*

Dr. Singh presented the issues highlighted in the preparatory report that listed a number of important points to guide the stakeholder dialogue. In so doing, he was speaking on behalf of the contributors of this report.

In his presentation, Dr. Singh acknowledged the important role played by the PSC in co-hosting the Forum on the role of the EIS. He recognized the central function that this sector plays in Guyana's economy and indeed in the LCDS. He expressed the hope that the collaboration with the PSC would mark the beginning of an engagement that would grow incrementally with time.

Dr. Singh advised that in preparation for this forum, CI-Guyana and WWF in partnership with Projekt Consult GmbH had prepared a white paper entitled "Guyana's Extractive Industry Sector: A Synopsis of Issues and Recommendations for the mining sector as a Sustainable Element of Guyana's Low Carbon Development Strategy". This document was previously shared with the attendees.

With regard to the mining sector, Dr. Singh listed a number of important points of reference to guide the Forum's interaction and beyond:

1. In 2012, the Government of Guyana estimated that the industry directly employed 16,500 persons, which means that more than 10% of the population is dependent on the industry. This means that approximately 8% of the male adult population is directly employed by the industry.
2. The mining sector also provides an important market for various goods and services thus providing further opportunities for employment.
3. The contributions of gold to Guyana's GDP rose from 7% in 2007 to 12% in 2010 and to over 15.5% in 2011. The total revenue from gold has grown by approximately 30% each year within the last five years to a figure of over US\$570 million in 2011.

Among continuous efforts to improve the environmental and social performance of the sector were:

- The enactment of mining regulations covering the use and control of poisonous substances, requirements for environmental management for small, medium and large scale mining, and the preparation of environmental management plans
- An Order to reserve specific areas within the Rupununi from prospecting and mining of minerals and metals
- The establishment of the Ministry of Natural Resources and the Environment
- A commitment towards phase-out of the use of mercury in the sector



Dr. Singh advised that the main thrust of the white paper is that the mining industry must be situated within the economy as an important contributor towards the growth of the total wealth of Guyana. Dr. Singh urged the audience to recognize that mineral resources are non-renewable – they are finite. As such, their extraction should be balanced by the growth of more than its equivalent in value in human resources or social structures, or in the growth of manufactured assets, or infrastructure, or a combination of them. The negative impact on renewable natural assets should also be minimized or offset. The net result must be that wealth must grow to compensate for and even grow beyond the value of the mineral asset that is extracted.

Dr. Singh highlighted some of the recommendations in the report that sought to improve the extractive sector through compliance. These included:

- The management of revenue inflows to the national treasury from mining and other extractive industries
- Education and awareness to break the barrier of lack of knowledge that presents an obstacle for compliance
- The mobilization of the population most impacted (e.g. women) through local-level multi-stakeholder groups

Dr. Singh closed by encouraging the audience to continue the dialogue beyond the Forum. He especially urged them to consider what they each can contribute towards a healthy sustainable society. See *Appendix IV* for complete text of Dr. Singh's presentation.

5. Summary of Plenary Discussion

Policy

- ✓ The members of the GGDMA and other stakeholders mentioned that they were concerned with the initial launch of the LCDS and believed that it would affect the gold mining industry. However, they stated that with studies and in working in harmony with the government, their fears on this issue were relieved. The audience was reassured that the GGDMA is very proactive in representing the miners and will continue to do so
- ✓ The members of the GGDMA also praised the creation of the Ministry of Natural Resources and the Environment which some members had been asking for since the days of the late President L.F.S. Burnham's time in office. They reiterated their commitment to work with the current Minister and give him their cooperation
- ✓ There was discussion surrounding the purpose of the white paper that Dr. Singh presented on. Seeking clarity, one participant asked if it was intended to assist the government in creating new policy. It was then suggested that the mining sector needs to have a well-written document that sets out the government's policy with respect to matters that are important to miners and that the existing policies are old and archaic
- ✓ Dr. Singh explained that the purpose of the paper was to contribute to the ideas generated at the forum and assist policy makers/decision makers in terms of addressing the issues and challenges faced by the mining sector and how these relate to the LCDS. He also acknowledged that there are challenges and issues with respect to the LCDS and gold mining and that in working towards some sort of convergence, discussions with different stakeholders are welcomed
- ✓ As part of the discussion it was stated that "there can be no mining or such activity without water". It was then discussed that fresh water resources in Guyana and in the Guiana Shield are very important yet there is no formal department of hydrology or water-shed management. It was argued that Guyana needs to focus on freshwater management and this must be part of the entire process
- ✓ Mercury, its role in the mining industry and its impacts on the environment, was discussed at length. It was agreed that the mercury issue has gone beyond the national arena and that there is an active move in the industry globally towards sustainability. However, there are a number of international elements that are likely to impact on what is done locally and this includes international compliance. Various conventions were also discussed that relate to land use, the rights of the people, etc. and the facts that these elements have begun to converge and might well have an impact on the pace of the phasing out the use of mercury. The cost of the transition to alternatives to mercury was mentioned and it was agreed that these must be considered
- ✓ It was noted that the current system does not adequately recognize the legitimate rights of indigenous communities. Instead, the focus is on legal recognition only, and these communities need full recognition in order to become empowered to address the significant threats (e.g. logging, mining) to the lands that they occupy and use

*"The purpose of the white paper...
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LCDS."*

Research & Development

- ✓ It was noted that although there are other mechanisms for mining, the poor miner is not in a position to utilize these. There should however be attempts to find other means of recovering gold and miners need to be given the encouragement to move in this direction – this has a cost which the artisanal miners do not have access to. They are also not sufficiently informed to do so
- ✓ The fact that many of the small miners do not have the resources or education to explore, research and experiment with alternative forms of gold mining was discussed. Disposal was stated as an issue of concern. Many of them also do not know how to dispose of mercury properly and participants thought that the government should be the one to move the sector forward in finding the alternative methods of gold recovery and educating miners about these alternatives. A royalty of 5% on gold, which is paid to the government, was discussed and it was suggested that the government should utilize some of these funds to bring in new technology

One suggestion was to research alternatives used in Venezuela where there are centralized laboratories to which the miners bring their final concentrates processing. The processing uses a certain amount of mercury but this is controlled and they do not allow the use of mercury on the dredges

- ✓ It was suggested that the Guyana government should buy mercury-free equipment from Brazil and teach the miners in Guyana how to use them
- ✓ Enhanced recovery was stated as being a very important step that should be taken at this stage. The Brazilians brought to Guyana a Labrador, which is a jig for enhanced recovery and it was mentioned that Guyanese have started to use it in a big way. This equipment is not very expensive and it can be used for small concentrations. It was requested that the GGMC needs to set up the mineral processing lab very soon and train the GGMC staff and around 25 miners in enhanced recovery

“...many of the small miners do not have the resources or education to explore, research and experiment with alternative forms of gold mining...”

- ✓ Another suggestion that was discussed was replanting. The recovery and reclamation activities of GGMC were discussed, mainly that a trial was run at Mahdia, planting more than 10,000 trees and which has seen growth. This demonstrated that the use of what can be seen as a ready-made area that was cleared and graded then replanted. This replanting does not necessarily have to be done by a miner – any entrepreneur could be incentivized to view this as an opportunity for tree planting or eco-tourism, for instance. Another project that GGMC did was to populate the tailings ponds with fish
- ✓ There were a few participants attached to UG present and it was discussed that the Faculty of Agriculture and Forestry has been engaged in a CIDA-funded project for over four years with GGMC and the EPA to look at replanting and also post plantation management of areas within the Mahdia community. Acacia was considered but it is felt to be very invasive. Further, given the actual degradation of those areas, it has been realized that acacia cannot survive outside of the replantation type of areas since the extraction of gold involves turning the soil upside down. As a result of this process, there is much aluminum toxicity resulting in high pH levels within the soil and within ponds in the mining areas
- ✓ Mention was made of the University of Guyana (UG) researchers testing biochar during the past two years. This involves taking the biomass or wasted carbon from trees and putting them under a pyrolysis process which prevents decomposition and the release of carbon dioxide into the atmosphere. It produces actual carbon which is applied to the soil. This is faster than the normal process of decay into soil humus and helps to enrich and

reduce the pH level of the soil thus allowing for proper replantation and the use of acacia and other indigenous materials

Requests were made for partnerships with the Private Sector, WWF, CI, NGOs and other Government Agencies from the UG participants. It was explained that through World Bank funding, the UG has received ten million US dollars, some of which has been partitioned to fund the University's Science and Technology Project for LCDS research work. Some of this funding will help to further research work in mining areas not only in reforestation but also in areas where carbon sequestration can be reduced.



Finance

- ✓ One participant mentioned that the GGDMA is projecting that this year, Guyana will produce the most gold than ever previously recorded – even more than when OMAI was present. The projection is 500,000 ounces all of which will be from local producers. Production is on target with this projection and already around 270,000 ounces have been produced. A number of foreign companies are also currently prospecting and it is hoped that they will be coming on stream. Local miners however have observed that they are not granted as many concessions similar to the foreign companies
- ✓ A clarification by a participant stated that for every ounce of gold sold to the Guyana Gold Board, the miner pays 5% royalty and that this contribution is very significant for the economy. There are also spin-offs from gold mining, e.g. farm supplies, the excavators, banking, transportation, etc.
- ✓ It was stated that when one talks about stress in the mining industry, we need to consider that there was a time when the price of gold was close to US 2,000 per ounce and now it is now around US 1,200 per ounce. Therefore we need to find a way to buffer these local fluctuations or we will always go through periods of stress. The paper talks about setting up some type of mechanism to buffer these changes at a local scale. The question is 'How does Guyana set up a mechanism whereby the windfalls and the depressions that occur over specific time periods can be smoothened out?' This would help to reduce the risk for the industry and also assist the government in managing the economy more effectively

- ✓ The questioner was asked whether the environmentalists ever considered measuring the financial impact on the small, medium and large scale businesses. It was then stated that there should be a commitment to do this and that it is missing from the conversation. There is also a need to measure the total impact on the sector so that these financial numbers could be pro-rated into time and we could project what we will be able to do in five, ten, fifteen years, etc. Production cost is not the same as total cost - production cost is the direct input into getting an ounce of gold - there are other factors involved
- ✓ One participant mentioned that the members of the GGDMA are claiming to uphold the environmental policies and regulations but then stated that miners are disinclined to do this especially when gold prices are low. He also discussed the environmental bond of G\$100,000 per annum and argued that it is inadequate when compared to the cost of recovering the environment. Thus, it should be reviewed

The participant also stated that miners can afford to pay more and that there is a need to have honest discussions about observing the environmental regulations, and there has to be a process of give and take – if miners want concessions, they have to give concessions. However, with regard to taxes and fees levied by the government onto businesses, these businesses would like to see where the money is going. The participant noted, “It is one thing to say that we need a higher bond but we also need accountability.”

- ✓ It was suggested that a baseline for environment, social, education, health, etc. be established before persons commence their (mining) operations and that they identify beneficiaries. A council for civil society is then created that includes some members of the government to discuss the future of local development after mining. A fund is then created to assist in building the capacity of civil society and to provide seed money to prepare for the transition. The participant stated that this has worked very well in other countries and that the government cannot be expected to do everything
- ✓ A participant stated that at least four economies in the Caribbean desalinate water for drinking - including Barbados, the Bahamas and, Antigua. There is an abundance of fresh water within the Guiana Shield and a number of entrepreneurs have already developed the technology for bulk transport of fresh water. Guyana is among the top five countries of the world as water creditor nations and this is a source of tremendous benefit to the economy

Institutional Strengthening

- ✓ One participant commented that judging from conversations with members of the mining sector, there is a belief that the sector does not receive the type of recognition that it deserves. He then elaborated on areas where there is much mining such as Mahdia, Kurupung, etc. and on the level of investment in education and health in those areas. Because the country's economy is dependent on these mining areas, the participant asked whether there is a focus on enabling these communities to be healthy and sustainable
- ✓ The "pull-side" of the recommendations was mentioned and the fact the report recommends training for miners and it was noted that this is positive since there are many small miners. The participant asked what the implementation plan for this training is, if the miners will come to Georgetown, whether trainers be trained, and whether there will be training at the mining sites
- ✓ The "push-side" of the recommendations was also mentioned and the fact that it refers to dissemination of legal stipulations and government policies. Recently, Minister Robert Persaud led a team to Lethem and they disseminated very good information to the Toshias who welcomed this. Going into the indigenous communities is a positive initiative. The Toshias are however requesting more of this type of training

Along the same line, another participant stated that institutional support should also be provided to the National Toshias Council (NTC) to make independent representation and forums or programmes. This is important for mobilization of the population that will be most affected

- ✓ On the "push-side", the establishment of a coordination platform between government agencies and the local level administration was raised. It was stated that the definition was unclear for "local level administration". There is a need to separate the administration of the Village Councils and a need for institutional strengthening
- ✓ One person mentioned the EIS report and a recommendation relating to the training of miners and entrepreneurs and the reorientation of tertiary education. The Minister spoke about not being pleased with the programme at the UG however, as it lacks finance. There is a need to seek partners, especially private sector ones, to improve its financial base to fulfill its responsibility for training
- ✓ There were also a few observations, one being that in each presentation, the speakers seemed to mention the word "social" but nothing was said about how these "push" and "pull" factors would actually translate into something that is approaching sustainability. Another observation was the fact that nothing was said about making the industry more efficient. Someone posed the question, 'What is being put in place to make a physical transition to a social transition?' Nothing has been said to tell us what will happen post mining
- ✓ One participant suggested that there should be outreach programmes with the miners to teach them about environmental protection. The relevant programmes should be coordinated by the Forestry Commission, GGMC and GLSC, with the involvement of the Army and the Police

"The University (UG) would welcome assistance from the private sector, WWF, CI and other NGOs to have research work done in assisting miners and the mining communities in sustainable development"

Regulatory Frameworks

- ✓ One participant inquired regarding the classification of mercury use as either bad or good mining practice. A responder indicated that such answers will be based on which stakeholder is asked, whether a miner, a conservation NGO, etc. and that mercury is not an 'evil' in itself. The point was also raised that certain agricultural pesticides are more hazardous than mercury. These considerations provided context for informing discussions on regulatory frameworks
- ✓ There was mention of miners in Mahdia who dig up the roads and pipes and the fact that the GGDMA does not condone this type of practice. It was explained that the Association has an environmental officer who goes into the field to assist miners who are not well informed on proper mining practices and the Association tries to respect the mining laws of Guyana which protects the environment. The procedure was explained to be that a miner requires a license to prospect and then a mining permit if gold is found. It has rules and regulations attached to it. There is an environmental form and miners have to sign a contract with the GGMC
- ✓ One participant noted the difficulties in enforcing regulations, stating that the cyclical nature of the industry places periodic stress on miners. During these periods of stress, it is argued that they are less inclined to focus their energies on green mining. On the other hand, when they are generating income, they are more inclined to engage in better practices. "When gold prices are high, the face of mining changes and people might be more likely to discuss environmental issues. When the gold price drops, these people disappear and go back to their jobs."
- ✓ On the topic of environmental management, there was discussion around the 16,000 people who are directly involved in the mining industry. No more than around 10,000 are small scale miners at the artisanal level. The small miners do hand work which does not do a lot of damage. The miners who do most of the clearing are those who have excavators and large dredges – over 6-inch size dredges. The volume moved by the dredge size varies with the square of the diameter. The 70 or 100 people who have large dredges produce the majority of the clearing and the majority of gold. These are the miners who should be targeted as a first line approach in matters pertaining to environmental management
- ✓ Further comments on mining and environmental management and reforestation suggested that clearing should not be equated with degradation – clearing is not necessarily degradation. Mining by its very nature and the license provided, is a license to clear the land, excavate and process but there is a requirement with respect to environmental management and there needs to be training in this area
- ✓ There was a comment in terms of the reforestation of the interior; a number of pits are left empty by miners in the interior. Miners go into pits and move to other pits when they are not doing well. These situations are not reported to the head office in Georgetown. The GGDMA spoke to some members in the organization about refilling the pits since it is not good for the environmentally responsible practice to leave them open
- ✓ It was noted that in the report, some "push" factors seem to contain repetition in some of the points. The point was also made that even though the discussion is supposed to be about bridging the extractive industry with the LCDS, there is nothing that talks about rehabilitation or reforestation of mined out sites
- ✓ There was also an appeal to the miners from one participant who noted that the environment in the Guiana Shield is extremely valuable to sustainable development. If we are in the business of mining, we must appreciate the natural capital for its value

- ✓ Indigenous communities were mentioned as being the ones most affected in the mining and forestry sectors. Some participants felt that their lands and the rivers that they use for their livelihood are being polluted and that logging and mining concessions are being granted in areas that Amerindians depend on for a living

One participant suggested that there needs to be education, awareness and capacity building to develop a different mindset. While there may be several guidelines and two volumes of regulations, they may not work. While the Minister may distribute copies of the Amerindian Act or the Mining Act in the different hinterland communities, this will not solve their problems. There should be a different strategy. People need to have information and know how to use this information in their best interests. They also have to be given the space and opportunity to be recognized and to say what is best for them

“We need to pay attention to the Amerindian indigenous people - they need to be paid the respect of having dialogue with them on issues pertaining to mining”

- ✓ A participant mentioned that in the report, a recommendation on the “push-side” factor has to do with incentivizing prospecting, exploration and economic activities within the sector. In Guyana, while we talk about corporate social responsibility, this is lacking in mining communities. The government should allow tax breaks for large miners to improve the community in various ways e.g. the infrastructure, building of proper roads, etc. This could enhance communities and engage members in other forms of business and entrepreneurial types of activities for the sustainability of the communities

6. Summary of Recommendations

Policy

- ✓ In the natural resources sector there should be white papers that set out the government's policies for Forestry, Lands and Surveys, the EPA, and the mining sector. There is one for the LCDS. The white papers for these other sectors would allow for comparison with the LCDS and subsequent harmonization and bridging of the gaps with the LCDS
- ✓ There should be a government policy with regard to the subsequent use of areas that were previously cleared for mining
- ✓ Guyana needs to focus on fresh water management – fresh water is an important resource in Guyana and in the Guiana Shield. There should be some entity that focuses on hydrology and water-shed management as part of the entire process
- ✓ There ought to be greater consideration of both the legal and legitimate rights of indigenous communities

Research & Development

- ✓ Persons involved in the mining industry should involve themselves in exploring alternative means of recovering gold in moving forward in phasing out the use of mercury. Small miners do not have the resources or education to explore research and to experiment with such alternative forms of gold mining and many are not familiar with the proper methods for disposing of mercury. The government should take the initiative to move forward in finding alternative methods and also educate the miners on these alternative methods. The 5% royalty on gold paid to the government by the miners could be used in this regard – there is no accountability with regard to how this money is being used by the government
- ✓ In exploring alternative methods of recovering gold, the government of Guyana should look at the technology and methods utilized by Brazil and Venezuela and explore partnership development with the relevant agencies in these countries with regard to the transfer of skills and technology
- ✓ Perhaps the initiative to explore alternative methods for the recovery of gold should come from the extractive industry since it may be more informed than the government with regard to the finer issues of gold mining
- ✓ Enhanced recovery is a very important step that needs to be taken by the extractive industry in Guyana. The technology utilized by Brazil can be explored as a possibility. The GGMC needs to set up its mineral processing lab soon and train its staff and miners in enhanced recovery
- ✓ Entrepreneurs should be incentivized to utilize areas that were previously cleared and graded for ventures such as tree planting, eco-tourism or other commercial activities. Similar incentives can be provided for making use of pits e.g. as with fish ponds
- ✓ The private sector, the extractive industry, the environment sector and other relevant stakeholders should collaborate with the UG in research pertaining to the LCDS and sustainable development. Such efforts could

include funding and technical support focusing on soil enrichment, reduction in the pH level of the soil, reduction in the sequestration of carbon, and reforestation

Finance

- ✓ The government of Guyana should consider providing local miners with concessions similar to those provided to foreign companies that are operating within the extractive industry in Guyana
- ✓ A mechanism should be developed to buffer the fluctuations in gold prices whereby the windfalls and the depressions that occur over specific time periods can be smoothed out. This will assist in reducing the risks and periodic stress within the industry in addition to assisting the government in managing the economy more effectively
- ✓ The environmental bond of G\$100,000 per annum needs to be reviewed - this is inadequate when compared to the cost of recovering the environment

Institutional Strengthening

- ✓ The government needs to provide greater recognition for the mining sector given the level of contribution made by this sector to the economy. There needs to be greater investment within the mining communities to make them sustainable, healthy and educated
- ✓ There should be efforts to provide institutional strengthening to the Village Councils within the Amerindian communities given that these communities among the most affected by the extractive industry
- ✓ There should be outreach programmes with the miners to teach them about environmental protection. The relevant programmes should be coordinated by the Ministry of Forestry, GGMC and Lands and Survey, with the involvement of the Army and the Police

Regulatory Frameworks

- ✓ Mercury should be recognized as a hazard even though the pesticides that are routinely used in the agricultural industry could be considered even more hazardous. In dealing with mercury, as with every hazard, mitigating measures should be employed including proper handling
- ✓ Miners need to observe the mining laws that stipulate that pits should be rebuilt and leveled after use - they should practice sustainable principles in mining as far as is possible. Miners should be provided with training in environmental management
- ✓ The miners who own large dredges should be targeted as a first line approach in matters pertaining to environmental management since they produce the majority of the clearing and the majority of gold
- ✓ The report needs to be amended to address the rehabilitation or reforestation of mined out sites and the livelihoods of the people who live within the communities where mining takes place

- ✓ The Amerindians within the mining communities need to be provided with education, awareness and capacity building. They also need to have a say in what is best for them
- ✓ The government should allow tax breaks for large miners to improve the infrastructure of the mining communities as part of their corporate responsibility. This could enhance the communities and engage members in other forms of entrepreneurial types of activities for the sustainability of the communities

APPENDICES

Appendix I: Participant List

Forum Registration List		
Community Organisation/ Civil Society	Amerindian Peoples Association	Laura George
Private Sector/ Mining	B.K. International	O. Persaud
Private Sector/ Mining	Brazilian Mining & General Association	Antonio Szala
Diplomatic Corps	Canadian High Commission	Anand Harrilall
Private Sector/ Mining	Correia Mining Co. Ltd.	Charles DeFreitas
Conservation Organisation	Conservation Trust Fund	Nadia Sagar
Private Sector/ Mining	Correia Mining Co. Ltd.	Christopher Correia
Diplomatic Corps	EU Delegation	Dereck Laurbe
Government Agency/ Regulatory Body	Environmental Protection Agency	Indarjit Ramdass
Government Agency/ Regulatory Body	Environmental Protection Agency	Tej Persaud
Diplomatic Corps	EU Delegation	Robert Kopecky
Private Sector/ Mining	EXCEL MINERALS INC.	S. Bhalaransingh
Diplomatic Corps	FAO	Lystra Fletcher-Paul
Government Agency/ Regulatory Body	Guyana Forestry Commission	Jagalesh Singh
Government Agency/ Regulatory Body	Guyana Forestry Commission	Karlon Wandé
Government Agency/ Regulatory Body	Guyana Forestry Commission	Rawle Lewis
Private Sector/ Mining	Guyana Gold and Diamond Miners Association	Colin Sparman
Private Sector/ Mining	Guyana Gold and Diamond Miners Association	William Woolford
Government Agency/ Regulatory Body	Guyana Geology and Mines Commission	Darcy Waldrand
Government Agency/ Regulatory Body	Guyana Geology and Mines Commission	Jeffrey Corlette
Government Agency/ Regulatory Body	Guyana Geology and Mines Commission	Rickford Vieira
Government Agency/ Regulatory Body	Guyana Lands & Survey Commission	Enrique Monize
Government Agency/ Regulatory Body	Guyana Lands & Survey Commission	Rondel Bljden
Government Agency/ Regulatory Body	Guyana Revenue Authority	Cordwell Henry
Press	Guyana Chronicle	Sorell Nelson
Press	Guyana Chronicle	C. Sanchez
Government Agency/ Regulatory Body	Guyana Gold Board	Anantram Balram
Government Agency/ Regulatory Body	Guyana Gold Board	Ajodhia Ramcharan
Government Agency/ Regulatory Body	Guyana Lands & Survey Commission	Rene Duesbury

Press	Guyana Times	Danielle Campbell-Lowe
Diplomatic Corps	IDB	Sophie Mckinnon
Community Organisation/ Civil Society	Institute of Private Enterprise Development	Yogieraj Das
Conservation Organisation	IWOKARAMA	Dane Gobin
Conservation Organisation	IWOKARAMA	Vanessa Benn
Government Agency/ Regulatory Body	MINISTER OF MoNRE	Robert Persaud
Private Sector/ Mining	MMC	Kevin Ramotar
Government Agency/ Regulatory Body	Ministry of Natural Resources and the Environment	Anil Riley
Government Agency/ Regulatory Body	Ministry of Natural Resources and the Environment	Veetal Rajkumar
Government Agency/ Regulatory Body	Ministry of Amerindian Affairs	Jude Agard
Government Agency/ Regulatory Body	Ministry of Natural Resources and the Environment	Bobby Gossai
Press	MTV 14/65	Abesh Ramlackhan
Press	NCN	P. Khan Drakes
Government Agency/ Regulatory Body	Office of Climate Change	Preeya Rampersaud
Mining	Omai Gold Mines Ltd.	Norman Mclean
Government Agency/ Regulatory Body	Office of the President	Joe Singh
Government Agency/ Regulatory Body	Protected Areas Commission	Damian Fernandes
Diplomatic Corps	PAHO/WHO	Adrianus Vlugman
Government Agency/ Regulatory Body	Prime Minister	Samuel Hinds
Private Sector/ Mining	PSC/CCI	Ramesh Soomroo
Private Sector/ Mining	PSC/CCI	RonaldWebster
Private Sector/ Mining	R&V Mining	Peter Robinson
Private Sector/ Mining	REUNION	Jo Bayah
Private Sector/ Mining	REUNION	Latoya Jack
Private Sector/ Mining	SAG	Desmond Sears
Community Organisation/ Civil Society	T.A.A.M.O.G.	Peter Persaud
Diplomatic Corps	U.S. Embassy	Jeff Barrns
Academic	University of Guyana	Elroy Charles
Academic	University of Guyana	Laurence Lewis
Academic	University of Guyana	Phillip DaSilva
Academic	University of Guyana	Sherwood Lowe
Diplomatic Corps	UNDP	Khadija Musa
Diplomatic Corps	UNDP-GSF	Patrick Chesney
Community Organisation/ Civil Society	WPA	Rupert Roopnarine
Organisers	WWF	Aiesha Williams
Organisers	WWF	Marlyn Payne
Organisers	WWF	Patrick Williams
Organisers	CI-GUYANA	Curtis Bernard
Organisers	CI-GUYANA	David Singh
Organisers	CI-GUYANA	Dianne Balraj
Organisers	CI-GUYANA	Saskia Nelson

Organisers	CI-GUYANA	Suresh V. Kandaswamy
Partner	CI	Jose Maria Cardoso da Silva
Rapporteur	The Consultancy Group Guyana	Mena Carto
Rapporteur	The Consultancy Group Guyana	Sarina Kawall

Appendix II: Honourable Robert Persaud's Speaking Notes

Representatives of CI,WWF, members of the diplomatic corps, stakeholders, GGDMA, others who operate in the extractive industry, representatives of the various regulatory bodies that are associated with the extractive industry. I also see Dr. Rupert Roopnarine, I know we had a late night last night, not necessarily a pleasant night, but a very late night in the National Assembly.

The government of Guyana through the Ministry of Natural Resources welcomes this initiative and we have looked at the report that had been generated, and in fact, initially, we had offered comments and insights because we recognize that for the extractive industry to be successful and viable, it also must be in sync and in some way ensure that there is linkage and orient itself in keeping with the Low Carbon Development Strategy. Because as part of the Low Carbon Development Strategy, and as we had this debate very early when consultations and discussions were going on with various stakeholders, many perhaps saw the Low Carbon Development Strategy as reducing and even infringing on the traditional activities that had been taking place within the extractive sector, primarily mining and forestry. But over time and with constant review, and we've been updating the document, by all stakeholders, and this document certainly is one that benefitted from the series and layers of consultations so much so that an international body oversaw the whole consultation process and pronounced on it too, to ensure that it was thorough and covered all the areas. And so over time, that view or that perception was removed; that is, the Low Carbon Development Strategy conflicted or would any way limit activities within the extractive industry.

And what this report and the efforts here are about is to look at harmonization – about how we can better harmonize the activities of the extractive industry with the Low Carbon Development Strategy. And one of the first steps in doing so, which the government took especially after the 2011 elections, was the creation of the Ministry of Natural Resources and the Environment and that reflected the President's direction and commitment to ensuring that we have that level of harmonization if we are to fully attain the objectives of the Low Carbon Development Strategy and the creation of the Ministry brought together the various commissions and agencies that oversaw, that regulated and promoted the activities within the extractive industry but at the same time dealt with the issues of concern and also the agencies that looked at environmental protection, primarily the Environmental Protection Agency and the recently created Protected Areas Commission. And since the creation of the Ministry, it has allowed various stakeholders and our international partners to work in a much more uniform, a much more cohesive way, one in furthering the development of the extractive industry but ensuring that we achieve the balance that all of us want in terms of sustainable utilization of those resources and also ensuring proper environmental management in this regard. And a number of initiatives and undertakings were made in that regard.

And having reviewed the recommendations of the report –preliminary and then the document that certainly you will be receiving and a presentation will be made in that regard. We have used this as one of our tools to ensure that what we are doing at the policy level, also at the operational level of the different agencies, that these are in sync with some of the advice and some of the directions that are being offered to the work of this team that has put together the report.

And what I would seek to do before making some additional comments about the report itself, is to use this opportunity, and we've created a matrix, in which we've looked at the main recommendations and to offer a status as to where we are on these recommendations.

And if we look at the first one that is reviewing policy framework that particularly address issues in terms of using rents to fuel growth in the key sectors of the low carbon economy, and looking at decision to support tools for land use design, enabling systemic, technical interagency coordination. The first step that was taken was the one in terms of the creation of the Ministry and ensuring that you have some level of integration and coordination amongst all the agencies. I am quite sure the Honourable Prime Minister as the previous Minister responsible, take for instance for

mining, would be in a better position to recall sometimes how it is disjointed, the left hand not knowing what the right hand doing, investors complaining, etc., now we have been able to bring those together to have a much more uniform system. So on that first recommendation, we have taken that bold step.

Then the second recommendation was to commission a Sector Environmental and Social Impact Assessment that address the cumulative impact of small and medium scale operations. And what we have done in dealing with that particular issue is to bring all the stakeholders together, from the regulators standpoint, the various agencies, as well as to work with those who operate in the sector in terms of addressing and assessing and to see how it is we can address the impact, particularly of small and medium scale operations, not only in terms of mining, but forestry and other forms of land use, even infrastructure development. So that is the second main recommendation and where we are and what we're doing.

The third one was looking in term of the legal stipulations and government policies related to the sector widely and making that much more known. And what we've sought to do, because it's available, these are public documents, but in addition to that, we have shared these with all the agencies, we've tried to summarize these so that you can reach the different tiers of understanding within the stakeholders groups and these are also available online. But in addition to that, what we instituted was that every single proposed amendment, whether it be for the primary legislation, or subsidiary regulations, we have developed an interactive process with various stakeholders and what we've sought not to do is to have the element of surprise where someone wakes up one day and finds that something is in the National Assembly. So, in addition to making what is available known and accessible, what we're also undertaking, and because it has to be a constant process, and we are, take for instance, we have two volumes of proposed regulations in terms of updating for the mining sector, what we've done is engaged the GGDMA and other stakeholders and we are in the process where we have started to receive comments. So even by the time that will be put on the books as it were, there would not only be that understanding, but also we would have benefitted from the type of contribution. Also we try to use, as much as possible, the media in this regard, talking more about what is expected, what are the legal regulations, we've have started a quarterly supplement which we target into the various areas where you have extractive industry activities taking place and so forth, so those are just some examples.

The fourth recommendation is to strengthen governmental authorities to enable sustainable and integrated natural resource management. Again, the government through the Ministry, we've put a lot of attention, and my good friend from UNDP certainly can speak to the work we have done and the support we received and how it is that we can strengthen at the center, the Ministry, but also looking at support that can flow to the various agencies so that we can have a much more enlightened approach in terms of the government agencies to enable sustainable and integrated natural resource management. And so whilst we do that from the centre, also in the various agencies, attention is being paid in that area.

The fifth recommendation was that was put in the report was incentivize prospecting and exploration as an economic activity within the sector. And already, if we look at our investment at 2004 and that was subsequently amended, we can say the incentives that were already in place so that we can encourage much more activities in this regard and already we seen, take for instance in the mining sector, this itself has become a very important subset in terms of activities that is taking place. And with the modulating gold price that we see, that itself has pushed more interest in terms of conducting discussions even with small operators themselves, looking and focusing more in terms of exploration and prospecting and it's an area where people have now invested in their own drills themselves, persons are engaging in conferences. We were at a mining conference in Australia and one of the companies were talking about their partners and they're looking at their partners operating in Guyana because it was a subsidiary company. We've already put those incentives in place. Many of these companies, they're, through an investment development agreement, they are able to benefit from a range of concessions, in fact, some of the local miners themselves have complained from time to time about the amount of incentives that the prospecting companies tend to receive and so much so we are in the process too of even equalizing some of those benefits to some of those operators, especially the small and medium scale level.

The sixth area that was recommended was strengthening monitoring capacities and implementation and supervision and so forth and this is absolutely bang on because it is an area of concern, it is an area that we have to enhance, it is an area in which we have to do much better in this regard. Major General Retired Joe Singh, a former chairman of GGMC and also someone who has worked a lot of years in the conservation area will tell you about the efforts that started several years ago and how it is that we can ramp up, how it is we can think much more efficient, take for instance in the mining sector, but also looking at what it is we can do better in terms of forestry in terms of monitoring and ensuring compliance. If you look in terms of the Lands and Surveys Commission and also strengthening the roads and capabilities of environmental protection area and that's an area we have given and will continue to, and recognize as an area where much more work needs to be done in this regard.

The seventh recommendation was to establish a coordination platform between national government agencies and the local level administration. Yes, we need those linkages, we've started both formal and informal mechanisms on how it is we can have better consultation, interaction, we have done a number of outreaches, we have sought to use various sub-committees at the central level but also engaging the Ministries of Local Government and Amerindian Affairs and ensuring that we can better manage, again that we have to continue to give that much more attention.

Establishing a monitoring and evaluation system on the impact of mining and including a database. That too has been one of the areas that the GGMC has been mandated to look at and even with external support working with its sister agencies in this regard because we have to constantly assess what is taking place, especially as we seek to embark on new tasks and new undertakings. I just listed some of those elements that were identified on the push-side.

There are eight others on the pull-side that were covered in the report and if we go through all of these, whether we talk about establishing mechanisms for mediation, there is a new proposal, a dispute resolution committee that is currently before the board of the GGMC itself and we also looking, and it was borrowed from the Land and Surveys Commission, because we've been able to develop that and we are looking to take it right across to minimize conflict and to allow much more mediation and it is any citizen's right to go to any court system and to prevent situations from getting out of control. And this mechanism which we are transplanting with some modifications from the Lands and Surveys Commission is currently before the GGMC board and very soon should be implemented. And in terms of developing guidelines and information for responsible mining practice, sometimes there is that view, if you look at our guidelines and code of practices, they are this thick, and sometimes the view is held that we do not have adequate or sufficient guidelines and codes of practices and regulations but that is totally not the case. I am not saying that the report suggested it, what I am saying is that we have on the books a lot of this, where the gap is in enforcement and ensuring that there is compliance so rather than piling up more, it is more about updating it is about enforcing and that is where we have to look.

The concern though that we have about the report, as much as it is useful, as much as it is necessary and this forum is something that which all of us should will take away benefits, is that it does not, in our view, achieve the objectives of how best we can integrate the extractive industry with the Low Carbon Development Strategy. What it does is that it diagnoses the situation, present perhaps some of the practical and sometimes obvious recommendations of what we should do but doesn't take us substantially to the next steps on how it is that we can have a much more dynamic, much more profitable and much more sustainable extractive industry fitting in within the Low Carbon Development Strategy. We don't see an obvious framework for a methodology of integrating this with the Low Carbon Development Strategy and I wanted to flag that because what it means is that we have to do more work and for me and for us here the report is not conclusive on those particular issues and I am quite sure listening to some of the interactions, listening to some of the issues being discussed today will take us further.

The report also focuses primarily on the mining sector with a bias on the mining sector and I hope that the intention of the author was not to only look at the mining sector because there are other extractive industries taking place in our country. If we want to be comprehensive we have to go to the entire suite of activities that relate to the extractive

industry. So, there is not much on forestry, there is not much on some of the sub-sectors, not even mining, it puts a lot of emphasis on gold mining and we recognize that because it's the largest growing sector within the extractive industry and given that in our economy it is very important to national development, social development and other progress taking place. But at the same time, because the Low Carbon Development Strategy is broad, it's holistic, and if you're going to have such a report moving in that direction, it must cover the gamut. I don't want the report to come out as if it is a judgment on the mining sector. What I've tried to illustrate is that we are on to the issues, we're not there on all the issues.

Even the collaboration we've with WWF, two months ago we've able to sign an agreement of support to address some of these critical areas, we talked about mercury-free mining, we talked about education and training and our work in terms of developing a Guyana Mining School, our collaboration with the University of Guyana, making that much more effective. In fact, on Monday afternoon I will be meeting with the new Vice Chancellor talking about that programme because we have some of concerns about the delivery of that programme by the University of Guyana, concerns that they have been told about and are aware of. But just to say that it is a useful tool and useful guide, we need to do some more work, certainly it will allow us to stay on the ball as it were and as we move the sector forward certainly ensuring that with our partners on the conservation and the environmental side, we do justice and we continue to advance the Low Carbon Development Strategy and at the same time to realize the potential and the opportunities that exists in the extractive industry sector. Thank you very much.

Appendix III: Ron Webster Speaking Notes

According to the classical definition given by the United Nations World Commission on Environment and Development, development is sustainable if it “meets the needs of the present without compromising the ability of future generations to meet their own needs.”

It is usually understood that this “intergenerational” equity would be impossible to achieve in the absence of present-day social equity, if the economic activities of some groups of people continue to jeopardize the well-being of people belonging to other groups or living in other parts of the world. Imagine, for example, that emissions of greenhouse gases, generated mainly by highly industrialized countries, lead to global warming and flooding of certain low-lying islands—resulting in the displacement and impoverishment of entire island nations. Or consider the situation when higher profits of pharmaceutical companies are earned at the cost of millions of poor people being unable to afford medications needed for treating their life-threatening diseases.

“Sustainable” development could probably be otherwise called “equitable and balanced,” meaning that, in order for development to continue indefinitely, it should balance the interests of different groups of people, within the same generation and among generations, and do so simultaneously in three major interrelated areas – economic, social, and environmental. So sustainable development is about equity, defined as equality of opportunities for well-being, as well as about comprehensiveness of objectives.

Moreover, economic growth must be constantly nourished by the fruits of human development, such as higher qualified workers capable of technological and managerial innovations along with opportunities for their efficient use: more and better jobs, better conditions for new businesses to grow, and greater democracy at all levels of decision making

Small Scale Mining

Artisanal and small-scale mining although a controversial practice offers thousands of people a sustainable livelihood, but there continue to be serious knowledge gaps in the sector that hinder effective and inclusive policymaking,

As a result, many miners lack access to the rights, financial services, market information, technology and geological data that would enable them to make the most money while minimising environmental impacts.

It is claimed that globally Artisanal and small-scale mining employs 10 times more people than large-scale mining, providing jobs and income for 20-30 million of the world's poorest people and supporting the livelihoods of five times that number, according to the International Institute for Environment and Development

Dollars earned tend to remain at home

Small scale mining in Guyana has gained the maturity to permit specialization in land rehabilitation, mining equipment development

In some areas, however, small-scale mining has a lighter environmental footprint than large-scale mining, as it “uses less energy, releases fewer greenhouse gases and produces less waste rock and tailings [mining waste material] per unit of gold”,

And although there is good hands-on experience and innovation on the ground to improve the sector, these are either not widely known about or face huge implementation challenges that stall progress, the report by the International Institute for Environment and Development (IIED) says.

The Case for Forest Plantations

The challenge for contemporary timber production is to craft management approaches that respond affirmatively to these overarching economic imperatives. Broadly speaking, there are two sources of timber supply—natural forests and plantations. Natural forest management technologies face daunting challenges—they are too costly, they cannot reliably produce positive environmental outcomes, they are not economically sustainable—to name just a few of the problems

(Binkley, 1997a, 1999). Analysis of a recent version of the natural forest

Forestry”—provides some insight into the problems. The Willer/Hall analysis

Low Carbon Economy

We have still to meet the imperative of creating, or assisting to create a national culture change, based and focused on a broad based low carbon national economy. The achievement of this goal will necessitate close collaboration across every sector of the Guyana economy, but time may not be on our side. Global climate data indicates that we have a limited time frame within which to act, a serious situation now recognised by several countries who may have to act forcefully to shift their economies towards less energy-intensive, more environmentally sustainable technologies.

The seriousness of the situation is highlighted by Lord Nicholas Stern, author of the British government-commissioned 2006 review on climate change that became a reference work, and predicted a two to three degree rise in temperatures. He says he underestimated the risks, and the threat posed to economies by rising temperatures could be far worse than predicted. In an interview at the World Economic Forum in Davos Stern said: "Looking back, I underestimated the risks. The planet and the atmosphere seem to be absorbing less carbon than we expected, and emissions are rising pretty strongly. Some of the effects are coming through more quickly than we thought then. A four degree rise above average is now possible."

Comment by Stern in 2009 – "Where we can, we have to go to zero carbon, because of a growing population and a rising middle class in developing countries which wants the same standard of living the developed world already enjoys. GHGs must be cut by at least 50% around the world by 2050, with the rich, developed countries cutting by 80%, compared to 1990 levels. We are at the beginning of a technical revolution of the magnitude of the railway, the motor car ... The economic crisis is an opportunity to lay the foundation for the future ... You can tell a very positive story here."

Jim Yong Kim, the World Bank President, also warned about severe natural resource conflicts should the forecast of a four-degree global increase above the historical average prove accurate and said. "There will be water and food fights everywhere, unless action is taken to create a carbon market, eliminate fossil-fuel subsidies and "green" the world's 100 megacities, which are responsible for 60 to 70% of global emissions". Jim Yong Kim pledged to make tackling climate change a priority of his five-year term.

Ending the financing of coal plants globally would also free up scarce public funds for investment in decentralized clean energy projects. According to the International Energy Agency (IEA), the only way the 1.3 billion people who still do not have access to electricity will be able to get it is through this type of off-grid, decentralized clean energy. Indeed, the IEA argues that to achieve universal electrification, the 70% of rural areas currently without power must be serviced with off-grid renewable energy.

It is my belief that the Private Sector has a major role to play in the development of a green economy; and to again quote the World Bank President "We have to find climate-friendly ways of encouraging economic growth. The good news is we think they exist. There is a lot of money to be made in building the technologies and bending the arc of climate change but this necessitates and is dependent on private sector involvement."

Appendix IV: Text of Dr. David Singh's Presentation

The Role of the Extractive Industry Sector (with a special focus on mining, oil and gas), in Guyana's Growing Economy

Thank you Moderator Carlton James for your introduction. Honourable Minister Robert Persaud, Members of Parliament, members of the Diplomatic Corps, Chairman of the Private Sector Commission, Mr. Ron Webster, my colleague Dr Patrick Williams – Guyana Programme Officer for the WWF-Guianas, Dr Jose Maria Cardoso da Silva, Executive Vice President of CI responsible for the Field Programmes, fellow participants in this forum. I want to join with Dr Williams to recognise the important role of the Private Sector Commission in co-hosting this very important dialogue on the role of the extractive industry sector in Guyana's economy – an economy that recognises the central function of nature, even as we pursue economic and social development. I believe that in a very fundamental way, this is what Guyana's Low Carbon Development Strategy sets out, and what all of us Guyanese would like to achieve.

CI-Guyana and the WWF-Guianas have partnered with Projekt Consult to prepare a white paper entitled Guyana's Extractive Industry Sector: A Synopsis of Issues and Recommendations for the mining sector as a Sustainable Element of Guyana's Low Carbon Development Strategy. You would have received an executive summary of this document in your invitations.

CI and WWF are international organisations recognised by the international community for our strong partnerships with governments, local communities, private sector and civil society to help to build sustainable societies. WWF Guianas' mission is to conserve the distinct natural communities and ecological phenomena, and maintain viable populations of species of the Guianas in order to sustain important ecological processes and services that maintain biodiversity, while supporting the region's socio-economic development. For more than 10 years, the institution has conducted research and promoted education and awareness in the mining sector across the Guianas. CI-Guyana works at the critical interface between conservation and development. Building upon a strong foundation of science, partnership and field demonstration, CI empowers societies to responsibly and sustainably care for nature, our global biodiversity, for the well-being of humanity. Globally, CI has been working with the extractive industry sector for several years to shape and transform global policy and practice. Projekt-Consult GmbH, is a Germany-based consultancy company that works in the fields of Renewable Energies and Energy Efficiency, and Mineral Resources and the Environment. The company has more than 20 years' worth of experience in the mineral resources and environment sectors, focussing on artisanal, small and medium-scale producers, and has developed several technical projects towards holistic solutions in the industry.

As contributors to the white paper, we recognise that we represent a segment of the range of groups who share an interest in the subject. Our perspectives are therefore important, but not more important than yours. We therefore welcome the role of the PSC in creating this platform, and hope that this marks the beginning of an engagement in which we can incrementally build consensus on how together we can construct a sustainable future for ourselves.

Friends, as we consider the present context in which the mining industry is situated within our economy and society, there are a number of important points of reference that can guide our interaction today and beyond.

1. The GGMC estimated in 2008 that 14,130 persons were directly employed in the sector, and in 2009 Professor C.Y. Thomas used this figure to estimate that as many as 90,412 persons were directly or

indirectly dependent on the industry. In 2012, the Government of Guyana estimated that the industry directly employed 16,500 persons. This means that more than 10% of our population is dependent on the industry, and some 4% of the population over 15 years of age are directly employed in mining, or as much as 8% of the male adult population is directly employed if we assume a preponderance of men over women directly employed in the industry.

2. The mining sector also provides an important market for various goods and services, notably transportation and food, boosting demand and therefore employment in these sectors, and thus providing jobs across both the economic and geographic landscape of Guyana.
3. Gold is of increasing importance in Guyana's economy, with its contribution to GDP rising from 7% in 2007 to 12% in 2010 and to over 15.5% in 2011. Figures from the Guyana Geology and Mines Commission indicate that total revenue from the gold sector (revenue net of costs) has increased dramatically – growing around 30% year on year in the last five years from a nominal value of approximately US\$170 million in 2007 to over US\$570 million in 2011.

Simultaneous to this, there have been continuing efforts to improve the environmental and social performance of the sector. These include

- In 2005, the enactment of mining regulations covering the use and control of poisonous substances, requirements for environmental management for small, medium and large scale mining, and the preparation of environmental management plans, inclusive of closure and reclamation.
- In 2009 the GGMC made an Order to reserve specific areas within the Rupununi from prospecting and mining of minerals and metals.
- In 2012, the Ministry of Natural Resources and the Environment was established, and has resolved to reform the natural resource management sector to align it better with current knowledge and practice.

At the same time we note the commitment towards phase-out of the use of mercury in the sector, and the increasing coverage in the media of social issues within the mining areas – issues that require greater activism in order for them to be addressed effectively.

These are emerging issues that co-exist with others ones which have occupied us before, including those associated with the relationship between indigenous communities and the sector, and the impact on waterways from mining activity.

The main thrust of the white paper, is that as with all sectors, the mining industry must be situated within the economy as an important contributor towards the growth of the total wealth of the country. A sustainable and responsible sector can drive long-term sustainable development in Guyana if it fosters growth in **total wealth**. Wealth is more than the access to and flow of revenue. It should consider also opportunity, and creation of options for future generations. Using a definition derived from the World Bank, 'Total Wealth' refers to three components - natural capital, intangible capital and produced capital.

- Natural capital refers to the natural resources that are available to a country. This includes non-renewables and renewables.
- Intangible capital comprises the resources that people possess inherently. These are human resources, including intelligence, education, skills and the cohesion that exists in social structures.

- Produced capital includes manufactured assets and machinery such as factories, capital plant, and infrastructure.

In order appreciate and consolidate the role of the sector in growing total wealth, we must recognise the fact that mineral resources are non-renewable. They are finite. The extraction or draw-down of each unit of mineral resource should be balanced by the growth of more than its equivalent in value in human resources or social structures, or in the growth of manufactured assets, or infrastructure, or a combination of them. Additionally, the negative impact on renewable natural assets should be minimised or offset.

The net result must be that wealth must grow to compensate for and even grow beyond the value of the mineral asset that is extracted. This speaks to the way in which the sector relates with the environment, addresses social issues, and supports the growth and diversification of the economy.

Based on this frame of reference, we have proposed a raft of recommendations framed as those that can push improvement in the sector through greater compliance, and those that encourage compliance. On one hand it is about enabling government to carry out its responsibility to effectively supervise and guide the sector, while on the other hand it focuses attention on helping the representatives of the sector to empower themselves to voluntarily implement safe and responsible working practice. We further suggest that both sets of initiatives need to be bound together to generate synergetic effects. The latter can be achieved for example through a multi-stakeholder platform to exchange information and establish a common understanding and approach on the greening of the mining industry, and the development and approval of benchmarks for responsible mining practice.

I would like to highlight some of the specific recommendations made.

A number of options are considered. These go beyond consideration of the policy or legal framework, and include incentivizing productivity and efficiency over production, maximizing wealth through strengthening value chains such as increasing production of domestic food supplies, reducing risk by improving hinterland security, and incentivizing investment of mineral revenues in human capital such as targeted support for education and health.

An important aspect considered is the management of revenue inflows to the national treasury from mining and other extractive industries, through for example the establishment of local, regional or national funds, and the promotion of incentives for companies to do the same. Apart from the encouragement of good practice, well-structured funds can serve as an important part of the necessary steps to reducing negative economic consequences and helping to boost overall wealth creation. A good example that we see before us at this time is the immediate concern over the recent drop in gold price. With an effectively managed and structured wealth fund in place, such sudden and unanticipated shocks can be buffered, avoiding such urgent requests to offer concessions on inputs to the industry such as on fuel.

In order to improve the contribution of the industry to sustainable economic development we must understand the barriers and driving factors that influence compliance with environmental norms. Among these are economic, technological, institutional, social-cultural and psychological factors. For example, with respect to mercury use in amalgamation, the transition from traditional ineffective and polluting amalgamation practice goes from traditional amalgamation in the open cycle to controlled amalgamation in the closed cycle and eventually to completely mercury-free processing. The first step is relatively easily achievable with minimum changes in the process, while simultaneously enhancing the recovery of gold from the ore and reducing mercury losses in metallic and vaporous states by more than 95 percent. While the last step is technically feasible and reduces mercury losses to zero, there are challenges to overcome, such as lower gold recovery, difficulties in treatment of fine grained gold, and higher capital investment.

Education and awareness form the basis for voluntary compliance and are necessary to break the barrier of lack of knowledge that is an obstacle for compliance. This is important especially in the initial phase of applying changes. In very few cases are changes voluntarily employed by the target group solely on the basis of consciousness and education. It is necessary to provide technical assistance and follow-up over a long period in order to apply these changes and assure their sustainability. In this context, the development of the mining school, and the growth of industry specific training opportunities, can promote low-carbon mining in Guyana.

The last recommendation I wish to highlight relates to the mobilization of the population most impacted by any new development. They can serve as a powerful ally for the promotion of compliance, and enhancing the success of the extractive industry sector. They can be an important steward if informed of the operation of the mine, the causes and effects of environmental and other impacts over a short and long period, and the relationship between the mining operation and the life of the community. Women especially play an important role in this regard. We note the efforts to create local-level multi-stakeholder groups or committees a few years ago. These groups can become increasingly important allies, even as their representation and independence grow. It is therefore in this context that we welcome the role being played by the PSC to enable this process today.

I would like to end by commending to you, this process that we have started today. In order to foster dialogue, can we consider starting from a fundamental set of principles? We have suggested a few in the executive summary that you would have received. These suggested principles recognize the role and potential of the sector, the importance to which we must all commit to growing an economy which will cause our children to be proud of us, the necessary contribution of the sector to the local communities with which it relates, and the international landscape in which we operate.

And then I would like to ask you, within the context and frame of reference in which you are, to consider what you can do to contribute towards growing a healthy, sustainable society.

Thank You.

Appendix V:

Guyana's Extractive Industry Sector (EIS)

A Synopsis of Issues and Recommendations for the mining sector as a Sustainable Element of Guyana's Low Carbon Development Strategy (LCDS)

Executive Summary

July, 2013



This work is a contribution to the ongoing dialogue on how Guyana can grow sustainably as a People and Nation. It provides a synopsis of issues facing the increasingly important extractive industry sector (EIS) as it moves to secure its place as a responsible partner in the growth of a healthy, sustainable society in Guyana. It summarizes a case for the integration of the EIS as a prime element of Guyana's Low Carbon Development Strategy (LCDS) framework, through the outline of issues, arguments and recommendations to help inform a strategic vision on how the sector can contribute towards a low- carbon economy.

Contributors to the paper have benefitted from interactions with stakeholders in industry, government, local communities, academia, and business. The team includes experts with several decades of accrued experience in the sector in South America and beyond, and experts who have worked and conducted research in varied fields at local and national scales in Guyana.

Authorship of the paper rests with the contributing team. The paper is evidence-driven, contemporary, and presents factual information and current thinking on issues that affect the EIS. It is framed by current knowledge and understanding of sustainable development as expressed by the United Nations Conference on the Environment and Development 1992 (the Rio Summit), Guyana's National Development Strategy (2002), and most recently Guyana's Low-Carbon Development Strategy (LCDS). Our accountability is to the Constitution of Guyana. Through generous funding from the German Government (through its embassy in Trinidad and Tobago), Conservation International – Guyana (CI-Guyana) and Projekt-Consult GmbH have partnered with WWF Guianas to prepare this piece. The findings of the research were presented at a meeting on February 1, 2013 and opened for comments from stakeholders. The executive summary and full report will both be accessible electronically.

CI-Guyana and our partners Projekt-Consult GmbH and the WWF Guianas look forward to continued meaningful participation in the ensuing discussions and are eager to support the Government and People of Guyana grow a healthy, sustainable society.

This piece has been produced with the kind assistance of the Federal Republic of Germany (represented by the Federal Ministry of Foreign Affairs through the agency of the Embassy of the Federal Republic of Germany, Port-of-Spain). The contents can in no way be taken to reflect the views of the Government of the Federal Republic of Germany. The report has also been financially supported by the WWF-NL and Royal Dutch Embassy through the WWF- Guianas programme and by Conservation International.

The extractive industry sector (EIS) has a significant contribution to make to growing Guyana's economy along a sustainable and responsible path and help the country to address the global threats of climate change. In 2012, mining and quarrying was the second largest contributor to Guyana's gross domestic product (GDP), after Agriculture, Forestry and Fishing (see Appendix I) [1]. In order to better understand the ways in which the sector can play such an important role, it is useful to review the EIS and examine how it contributes to growing wealth in Guyana, especially within the context of its relationship and contribution to the country's Low Carbon Development Strategy (LCDS). Launched in 2009, the LCDS provides a framework by which Guyana will transition its economy along a green and low-carbon path, whilst mitigating the global risks faced from climate change through sustainable management of its forests. Drawing from economic and scientific data, evidence suggests that it is possible to further harmonize the EIS with the LCDS and contribute to its success in promoting sustainable growth. However to achieve such alignment, the rational expansion of the industry and the importance of its integration into the LCDS needs to be commonly explored, starting from the establishment and follow-through of an evidence-based agenda.

Prior to the launch of the LCDS, the EIS - predominantly through artisanal, small-, and medium-scale mining - experienced substantial growth and has become a dominant component of Guyana's economy. Increasing gold prices, coupled with growing production and technological improvements, has made gold Guyana's most important export commodity [2], far exceeded other sectors such as rice and sugar. Its growth has meant that it is now the most developed sub-sector and the major driver of deforestation in the country [3]. Foreign direct investment has also increased in the country's EIS, and extends beyond gold to a number of other mineral resources, including oil and gas. Notwithstanding the benefits provided by the industry and the use of substantially improved technology, there remain some critical issues to be addressed before the industry can be fully integrated into the LCDS framework and hence take up its rightful place in Guyana's sustainable, green development. Of particular relevance is the artisanal and small-scale mining (ASM)¹ and medium-scale sector in relation to tradition and culture, environmental stewardship and indigenous issues and interests. The efforts of the recently established Ministry of Natural Resources and the Environment and the GGMC to enhance sector performance are noteworthy, and must be supported to achieve optimal use and sustainable management of the country's natural resources.

A sustainable and responsible EIS can drive long-term sustainable development in Guyana if it fosters growth in 'Total Wealth', particularly while mineral prices are high. Derived from the World Bank [4], the term 'Total Wealth' refers to three components (or capitals) - natural capital, intangible capital and produced capital - by which the potential for a country's development can be measured (see Figure II). Natural capital refers to the natural resources that are available to a country, including non-renewables and renewables. Intangible capital comprises the resources that people possess inherently - human resources, including intelligence, education, skills and the cohesion that exists in social structures. Produced capital is defined as manufactured assets and machinery such as factories, capital plant, and infrastructure.

The EIS can negatively impact total wealth in several different ways. The sector draws down on non-renewable natural capital and may lead to secondary losses of renewable natural capital through, among other things, deforestation, forest degradation and freshwater contamination which results from the extraction process. Although the sector creates employment opportunities for many, it sometimes also creates challenges to the development of a human and social capital (i.e. its intangible capital) by creating conditions conducive to insecurity, disease, and pollution-related health concerns in local communities. Expansive EIS sectors can provide large increases in produced capital through investment in critical infrastructure, however the large income flows from the sector may crowd out other manufacturing activity, affecting the growth of other sources of produced capital. Further, that the sector is underpinned by non-renewable resources and that mineral reserves are currently unknown, mineral exhaustion would entail significant economic consequences in a mineral-dependent economy with limited sectoral diversification.

In the absence of well-structured governance and institutional frameworks, an EIS may create vulnerability to the resource curse, the observed condition in which a country exhibits socioeconomic underperformance despite an abundance of natural resources. One manifestation of the resource curse is the so-called "Dutch Disease", a condition in which a rapid surge in revenues from natural resource extraction results in the

¹ ASM is by far the largest component of Guyana's EIS and currently accounts for 50 percent of foreign exchange earnings. However, it is estimated that these earnings only represent a fraction of actual production. The consequence is that the draw-down on natural capital occurs for 100 percent of extraction, though leaves the country with only a fraction of the earnings that ought to be derived from that draw-down.

decline of other sectors that rely on international trade. However, literature on the resource curse has made the critical conclusion that the condition is foreseeable and avoidable. Well-governed, strong states with solid institutional competence and transparency can effectively harness the EIS to contribute to Total Wealth. Domestic investment of natural resource wealth can contribute to improvement in socioeconomic and environmental indicators. Thus, there is enormous opportunity for sustained economic growth and national development based on resource extraction, e.g. investment in human and social capital, investment in competitiveness in other traded sectors, economic infrastructure, and so on.

If carefully managed, the EIS can provide an important element leading to sustainable economic development and the accumulation of Total Wealth. This can be achieved if the sector is managed to ensure that its draw-down on natural capital and its negative impact on intangible capital, are minimised and compensated. Moreover, there are medium- and long-term advantages if the financial returns generated from the EIS are used to fuel growth in intangible and produced capital which promote non-extractive sectors. An EIS that contributes to the growth of a state's Total Wealth not only causes diversification of its economy through investment in human and produced capital, but also conserves that state's natural capital in order to fulfill domestic and international environmental commitments and provide for future generations.

Presently, the Government of Guyana is expending a significant amount of resources towards improved natural resource management. The creation of a Ministry of Natural Resources and the Environment and its ongoing efforts to integrate the various sector interests is an important step toward optimizing the use of the country's resources. Additionally, private actors in the mining sector have been taking steps to improve current practices in the industry, including improved business practices and worker relations, site recovery and after-use, diversification of investments, and improved capacity building for the management of operations. In support of moving these efforts forward, and to ensure that Guyana's EIS plays a central role in the sustainable development of the nation we offer the following perspectives.

We propose a set of fundamental principles as the starting point to develop consensus on how to integrate the EIS into Guyana's LCDS. Through such a process of consensus-building, collaboration can be further engendered to address the pressing and urgent needs to advance the integration of the extractive industry sector into Guyana's sustainable development path. These principles are built on the commitment of the government and the citizenry to environmental protection and sustainable development.²

These principles include:

The crucial role of Guyana's EIS to economic growth

The great potential for the sector to lead to growth in Total Wealth for Guyana

² The Preamble to Guyana's Constitution proclaims that our citizens "demonstrate our commitment to protect our natural environment". Article 14 of the Constitution goes on to state that the "goal of economic development includes the objective of creating, promoting and encouraging an economic system capable of achieving and maintaining sustainable competitive advantage in the context of a global competitive environment". Article 25 declares that "every citizen has a duty to participate in activities designed to improve the environment and protect the health of the nation," and Article 36 that "in the interest of the present and future generations, the State will protect and make rational use of its land, mineral and water resources, as well as its fauna and flora, and will take all appropriate measures to conserve and improve the environment,."

The need to grow the EIS in accordance with Guyana's international commitments

The necessary contribution of the EIS to the social, economic, and institutional development of local communities

The benefits to the EIS and other stakeholders from the integrated management of natural resources

The implementation of ethical, robust and equitable business practices in order for the EIS to meet international standards

Based on a review of the sector, and building on international experiences, we recommend an integrated approach to further harmonise the EIS with the LCDS. We frame our recommendations following a 'push-pull scenario,' which stimulates dialogue among stakeholders. The push-side recommendations compel compliance with evolving standards (through enhanced legislation or enforcement), while the pull-side recommendations encourage compliance (through guidelines, manuals and training).

1. Push-side: empower government to improve their effective supervision and guidance of the sector

- Review policy frameworks
- Commission a Sector Environmental and Social
- Impact Assessment, divided into manageable and prioritised sub-components
- Disseminate legal stipulations and government policies
- Empower government authorities to promote sustainable and integrated natural resource management
- Incentivize prospecting and exploration as an economic activity within the sector
- Strengthen monitoring and supervision capacities and implementation
- Establish a coordination platform between government agencies and local level administration
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- Establish a coordination platform between government agencies and local level administration
- Establish a monitoring and evaluation system and database on the impacts of mining

2. Pull-side: empower miners to voluntarily implement safe and responsible practice

- Develop guidelines and information on responsible mining practice
- Train miners and entrepreneurs and strengthen training facilities
- Influence the reorientation of tertiary education institutions to focus on training relevant to the EIS and within the context of the LCDS
- Establish an enabling environment, including an incentive scheme, for greening mining practice
- Support pilot projects to test new ideas and initiatives
- Publish good and best practice examples widely
- Establish mechanisms for conflict mediation
- Establish mechanisms for the exchange of information and experience with good practices

Underpinning discussion, refinement and implementation of these recommendations, a multi-stakeholder platform is proposed. It will enable exchange of information, establish common understandings, and promote the development of a set of benchmarks for responsible mining practices at all scales. Such a platform would provide the binding element to enable a common, evidence-driven agenda, and the furtherance of recommendations. The outcomes of these efforts will support the extractive sector's enhanced contribution to the Total Wealth of Guyana, thus securing the country's path toward a diverse and sustainable economy in synergy with a strong foundation of natural, intangible, and produced capital.

The extractive industry will continue to occupy a central place in Guyana's future, especially with the prospect of offshore oil and with elevated commodity prices. However, there is no denying that should business-as-usual persist, Guyana's prospects of achieving a low-carbon, green economy will be limited. By building a consensus on this topic we will provide the basis for a truly integrated LCDS, with the EIS as an important contributor.

Guyana's vast natural resource wealth endowment provides the country with a comparative advantage, particularly in the extractive industry sector (EIS). In order to optimize the contribution of this sector to the sustainable development of the country, natural resource extraction must reflect (i) integrated and forward-thinking planning and development and (ii) meaningful and sustained collaboration between key groups of society, including government, the private sector, civil society, and the broader Guyanese population. This will ensure that the EIS is competitive, and socially and environmentally responsible, demonstrating its alignment with national development strategy.

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Appendix

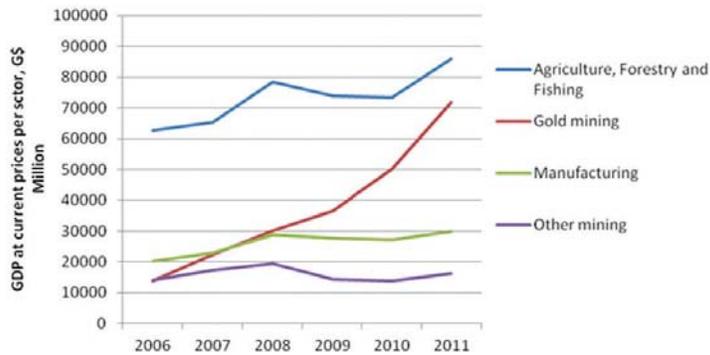


Figure I: GDP in current prices Agriculture, Forestry and Fishing, Gold mining and Manufacturing 2006-2011

(Source: Guyana Bureau of Statistics, Imports and Exports, G.B.o. Statistics, Editor. 2012)

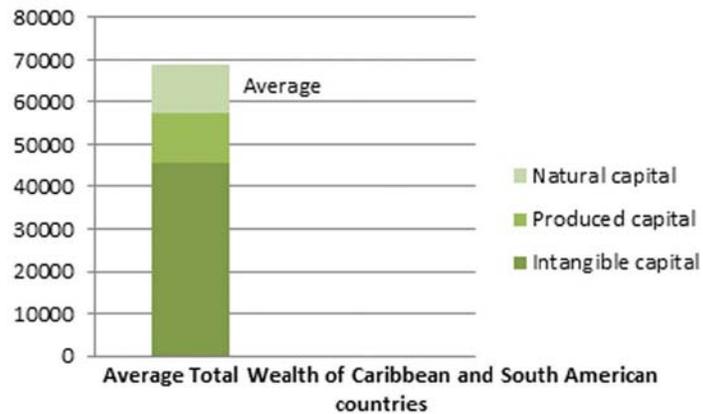


Figure II: Components of Total Wealth (Source: Conservation International—Guyana)

(Source: The World Bank, Where is the Wealth of Nations? Measuring Capital for the 21st Century. 2006, The World Bank: Washington, D.C)

Conservation International-Guyana

D. Singh, C. Bernard, P. Rampersaud, T. Laing (Consultant), D. Balraj

Projekt-Consult GmbH

M. Priester and T. Hentschel

WWF Guianas

P. Williams, A Williams, O. Davis, and L. C. Watson (Consultant)

Conservation International Foundation Guyana Inc. (CI-Guyana), a subsidiary of Conservation International Foundation (CI), is a Guyanese not-for-profit Non-Governmental Organisation. Established in 1987, CI has developed global experience and skills in linking human development with the conservation of the earth's living natural heritage. Building upon a strong foundation of science, partnership and field demonstration, CI empowers societies to responsibly and sustainably care for nature, our global biodiversity, for the well-being of humanity.

Since 1996, CI-Guyana has been deeply committed to assisting Guyanese to embrace healthy, sustainable economic development. The organisation recognises that while the reasonable and legitimate needs of people must be met, sustained economic growth can only be realized if nature and the services which it provides for the security of human well-being are maintained from generation to generation. CI-Guyana therefore works at the critical interface between conservation and development. Through partnerships with government, private sector, local communities and civil society, the organisation deploys its global networks and partners to support the sustainable development aspirations of the country, and uses these experiences to help inform and influence international policy related to the conservation and sustainable use of natural resources. CI-Guyana's strong experience on the ground, especially engaging local ecosystem dependent communities, and its approach of engaging to enable and build capacity have led to key successes in integrated natural resource management and planning.

Projekt-Consult GmbH, a Germany based consultancy company, has been working in the field of international co-operation for more than 30 years, gathering extensive experience in this field. Among our clients are German and international development cooperation agencies, bilateral and multilateral donor institutions, and regional development banks. Thematically Projekt-Consult GmbH focuses on two fields: Renewable Energies and Energy Efficiency, and Mineral Resources and the Environment.

Since 1988 Projekt-Consult GmbH has systematically developed competence and excellence in the mineral resources and environment sectors. We focus on artisanal, small and medium-scale producers and have evolved from technical projects towards holistic project approaches. This includes, besides technical issues, the consideration of socio-economic aspects, the legal administrative framework, organisational and managerial issues, environmental performance as well as policy dialogue. Our project partners are in the private, civil and public sector. In the private sector we focus on producers, mineral traders, as well as on financing agents and the suppliers of mining equipment. Partners from the civil sector are foundations, associations, and umbrella organisations as well as representatives of mining communities. Our partners in

the public sector are mining and geology departments, environmental agencies, local and regional governments and administrations.

WWF has been active in the Guianas since the nineteen sixties, starting with conservation work on Marine Turtles. The Guianas office opened since 1998 and currently has offices in Guyana, Suriname and Fr. Guiana. WWF Guianas works in partnership with governments, the private sector, non-governmental organizations and semi-autonomous bodies to protect the ecological landscape of the region. Over the past ten years WWF Guianas has been the only conservation organization involved in conducting research and promoting education and awareness in the mining sector across the Guianas. WWF Guianas' mission is to conserve the distinct natural communities, ecological phenomenon and maintain viable populations of species of the Guianas in order to sustain important ecological processes and services that maintain biodiversity, while supporting the region's socio-economic development.