

REPUBLIC OF LIBERIA

Mineral Policy of Liberia



MINISTRY OF LANDS, MINES AND ENERGY
P.O. BOX 10-9024
1000 MONROVIA 10
LIBERIA, WEST AFRICA

This Policy becomes effective on and after March 2010.

Government of the Republic of Liberia

Table of Contents

1	Liberia Mining Vision.....	3
2	Introduction.....	5
3	Key Principles of the Mineral Policy	6
4	Mineral Endowment.....	7
5	Regulatory Framework.....	7
6	Equitable and Competitive Fiscal Framework	8
7	Competing Land Rights and Land Use Options	10
8	Environmental Stewardship and Social Responsibility	10
9	An Integrated Mining Sector	11
10	Artisanal and Small-Scale Mining (ASM).....	12
11	Quarrying (sand, stone, clay and laterite mining).....	13
12	Transparent Benefits from Mining.....	13
13	Developing with Broad Participation.....	13
14	Building Capable Institutions.....	13
15	Investing for the Future (Sustainable Investment).....	14
16	Expected Outcomes	14

Liberia Mining Vision

Towards Liberia Mining Vision for the 21st Century

Vision Statement

“Equitable and optimal exploitation of Liberia’s mineral resources to underpin broad-based sustainable growth and socio-economic development”

The shared vision will aim to achieve:

- A knowledge-driven mining sector that catalyses & contributes to the broad-based growth & development of, and is fully integrated into, an African market through:
 - Down-stream linkages into mineral beneficiation and manufacturing;
 - Up-stream linkages into mining capital goods, consumables & services industries;
 - Side-stream linkages into infrastructure (power, logistics, communications, water) and skills & technology development (HRD and R&D);
 - Mutually beneficial partnerships between the state, the private sector, civil society, local communities and other stakeholders;
 - A vibrant, environmentally friendly and socially sustainable artisanal and small-scale mining sector;
 - A comprehensive knowledge of its mineral endowment.
- A sustainable and well-governed mining sector that effectively garners and deploys resource rents and that is safe, healthy, gender & ethnically inclusive, environmentally friendly, socially responsible and appreciated by surrounding communities;
- A mining sector that has become a key component of a diversified, vibrant and globally competitive industrialising Liberian & African economy;
- A mining sector that has helped establish a competitive Liberian & African infrastructure platform, through the maximisation of its propulsive local & regional economic linkages;
- A mining sector that optimises and harnesses Liberia’s finite mineral resource endowments and that is diversified, incorporating both high value metals and lower value industrial minerals at both commercial and small-scale levels; and
- A mining sector that is a major player in vibrant and competitive national, continental and international capital and commodity markets.

Foreword

Mutual Beneficial Programme, Projects and participation have the potential to yield benefits for Liberia. It is against this background that a Mining Policy has been developed to create an enabling environment for the facilitation of programmes and projects.

Liberia is blessed with mineral wealth and as a result the mining sector is making a significant contribution towards the economic revitalization of the country. The advantage of offering a coordinated policy Framework is that international economic relations are increased and regional and international trade enhanced.

With renewed interest now being heavily manifested in Liberia's mineral resources, significant chances abound for a rapid redevelopment of the country. Like the iron ore resources, the alluvial gold and diamond sectors are showing signs of re-emergence after the lifting of the UN sanction on the export of Liberian rough diamonds and the Government's ban on diamond mining and trading.

This policy document is expected to provide an equitable and competitive mining sector, fully integrated into the African market and constitute a major player in National, continental and international capital and commodity markets. It is also intended to provide a framework that will guide the sustainable management of Liberia's mineral resources.

Eugene H. Shannon (PhD)

Minister

Ministry of Lands, Mines & Energy

1 Introduction

The management of Liberia's natural resources is a critical aspect of the Government's reconstruction and development programme. This policy document seeks to provide a framework for the sustainable management of the country's mineral resources and to guide interventions by government institutions as well as other stakeholders. It sets out the expectations for the sector to contribute not only to the revitalisation of Liberia's economy but more broadly to social regeneration and the enhancement of a democratic culture.

Mining in itself is clearly not sustainable, as it depletes a finite national asset. However, mineral extraction can indirectly become sustainable in so far as it catalyses sustainable economic activity in other, sustainable, sectors, through maximising the economic "linkages" whilst the resource is still extant.

Strategies to develop these complex and diverse linkages are dealt with below.

A Liberian Minerals Policy, to guide strategies and decision making, is all the more opportune and pertinent at the current global juncture of rapid and sustained growth in Asia, particularly China & India, that has dramatically increased mineral demand and mineral prices. Given that the population of developing Asia is more than three times that of the industrialised (OECD) countries, it can be expected that this high mineral demand cycle could continue for several decades. This provides a *window of opportunity* for Liberia to use its mineral resource endowment wisely, to underpin integrated and diversified national growth & development, and to avoid the pit-falls of the "resource curse". Many resource-rich African states have failed to realise the earlier expectations of rapid development due to the negative impacts of the resource booms, such as the strengthening of the national currency and the diversion of capital and skilled labour into the resource sector, rendering other, sustainable, sectors uncompetitive, and the subversion of resource rents by the political elites, curtailing the rate of reinvestment into economic growth.

This policy document seeks to give adequate indications to the investment community (both national and foreign) of a competitive mineral regime that is informed by international trends, adheres to international norms, -is grounded in local conditions and is accountable to national common interests. Further, this policy focuses on advancing the interests of present and future generations of Liberians in the context of attracting private investment to facilitate the development of mineral resources, but in an optimal manner that husbands the resource and maximises the economic linkages for sustainable local & national growth & development.

Mineral resources are vested in the Republic as stated in the New Minerals and Mining Law (MMA) of 2000, Section 2.1. This sections states that "Minerals on the surface of the ground or in the soil or subsoil, rivers, streams, watercourse, territorial waters and continental shelf are the property of the Republic of Liberia and anything pertaining to their Exploration, Development, Mining, and Export shall be governed by this Law." This law was strengthened by the Public Procurement and Concessioning Act (PPCA) of 2006 that sets out a transparent and competitive system for the concessioning of known state mineral assets. To make productive use

of these resources requires the participation of the private sector to provide investment and skills.

2 Mineral Policy Principles

Before 1990, the mineral sector contributed greater than 65 percent of export earnings and approximately 25 percent of GDP. During the civil unrest that ensued, the contribution was reduced to negligible levels for almost 15 years. All major mines were closed, leading to job losses and reduced government revenues and foreign exchange earnings. In addition, in the later years, proceeds from small-scale (mainly diamond) miners were used, to a large extent, to finance the civil strife. Based on its past strategic economic position in the economy, the mineral sector has the potential to jump-start the reconstruction of the country and to underpin sustainable resource-based growth & development.

The main strategies of the current Government are to revive the mineral sector to enhance its contribution to government revenues, foreign exchange earnings, employment creation, ancillary economic activities, human resources & technology development and the improvement of social and physical infrastructure. To adhere to these strategies, the Government has the following objectives:

1. To establish an internationally competitive, stable and conducive business climate to attract and sustain foreign and local investment;
2. To formulate a fiscal and concessioning regime that assures the country of fair value for its resources, while offering equitable rewards to private investors;
3. To institutionalise procedures to maximise returns to the nation from its finite known and unknown mineral assets;
4. To put in place a mechanism for the evaluation of competing land use options;
5. To eliminate adverse social conditions and environmental degradation due to mining activities;
6. To support and enable artisanal and small scale mining activities to create employment, generate income and help reduce poverty in the rural areas;
7. To ensure equitable distribution of benefits from mining activities to meet both current and future needs;
8. To facilitate equitable access to the sector by all qualified Liberians, irrespective of gender or ethnicity;
9. To ensure consultation of all stakeholders and protect affected people from exploration through mining and post- mine closure;
10. To establish an effective administration and management of the mineral sector;

To enhance revenues and to ensure that the mineral sector contributes significantly to broad-based national growth & development, through the maximisation of the mineral economic linkages, the policy will promote:

- i) the re-investment of the resource rents into sustainable activities;

- ii) the use of mineral infrastructure (logistics, power, water, telecoms, etc.) to underpin growth in other sectors;
- iii) the maximisation of down-stream linkages (“beneficiation”) through the establishment of mineral-based value addition industries;
- iv) the development of the up-stream linkages by establishing mineral supplier (inputs) industries (services, capital goods, consumables); and
- v) the optimisation of skills & technology linkages and the facilitation of “lateral migration” into non-resource-based sectors/activities.

This policy will also ensure that mineral sector development takes advantage of initiatives and collaboration at regional, continental and international levels to assure best practices and good governance for accelerated growth & development.

3 Mineral Endowment

Liberia is endowed with a variety of mineral resources, both higher value metals and industrial minerals. Gold, diamonds and iron ore are the principal mineral resources occurring in ancient greenstone belts in many parts of the country, as well as traces of platinum, uranium and niobium, and base metals such as nickel, cobalt, tin, lead and manganese. Industrial rocks and minerals such as sulphur, phosphates, clays (kyanite), granite, silica sand, heavy mineral sands (rutile & ilmenite) and diabase/dolorite are also known to exist in both small and large quantities.

The Government is committed to attracting and enabling private sector investments for the development of mineral deposits, particularly iron ore mines, and to promote new investments in exploration and development of gold, diamonds, base metals and other mineral deposits. Geological information and mineral data will be made readily and widely accessible to both small and large scale prospective investors.

4 Regulatory Framework

The Government of Liberia is committed to the creation of a stable and conducive business climate. In the context of the legal and regulatory framework for the mineral sector, this involves:

- an open, transparent and competitive auction procedure for known mineral deposits (guided by the PPCA);
- a predictable licensing system for unknown deposits, and
- clearly defined rules and regulations that:
 - Set out simple and transparent procedures for the allocation of rights,
 - Stipulate the conduct of exploration activities,
 - Define the transition from exploration to mining rights and the transfer of these rights
 - Regulate the conduct of mining.
 - Guarantee security of tenure and the orderly carrying out of business, and
 - Ensure exclusivity of specified mineral rights over licensed areas.

At the same time, the title system will encourage active mineral exploration and exploitation but discourage sterilisation for speculative and/or other purposes. Disputes relating to mineral rights must be addressed in a timely and fair manner by government (Ministry of Lands, Mines and Energy (MLME)) and, if no settlement is reached, the courts of Liberia or international arbitration, in defined circumstances.

An accessible web-based mining cadastre information management system will be established that will enhance transparency in the award and monitoring of mineral rights. The principle of First-In-First-Assessed (FIFA) will form the basis for conferring mineral exploration rights over areas where the state's mineral assets are unknown and a transparent and competitive auction system will be used to concession known mineral deposits under the PPCA. Application forms as well as license fees will be standardised. To ensure coherence in decision-making, the harmonisation of the New Minerals and Mining Law with other statutes being administered by other institutions that directly or indirectly affect the development of the mineral sector, particularly the PPCA and the EPA, will be effected.

The allocation of resources to strengthen the institutions with oversight responsibilities is a critical part of the Government program. The relevant institutions will be encouraged to consult and develop understanding between them as to their respective roles in and contributions to decision-making that impacts on the minerals sector.

Mineral Development Agreements (MDAs) will be standardised and deviations from national fiscal, environmental and other regimes will be minimised. The MLME will assess the future relevance of MDAs once the minerals regulatory regime is completed. This could permit Liberia to move to the international system of exploration licenses with comprehensive regulations and mining licenses with comprehensive regulations, which may obviate the need for MDAs, except for exceptional projects that require amendments to the prevailing legal and regulatory system.

5 Equitable and Competitive Fiscal Framework

The fact that minerals constitute a non-renewable resource makes it necessary for the country to maximise the economic linkages, particularly the collection of economic rents in compensation for the forgone benefit, due to giving up its mineral resources for private sector exploitation. Unlike other concessions where the state asset is returned at the end of the lease with an enhanced value, mineral assets are depleted by the concessionaire and the state is left with a hole in the ground. The substantial impacts that mineral operations can have on the environment, society and future generations warrant that appropriate policy prescriptions be developed by the government to provide a mechanism for compensation as well as incentives to encourage sustainable development of its mineral resources, through the facilitation of sustainable ancillary economic activities.

The substantial contributions to growth and development that can be realised by mineral resources require significant investments. Developing or finding a commercial mineral deposit and developing it into a mine is a risky business, as there is no guarantee of finding a deposit that can be mined profitably. There is often a long lead-time between expenditure on exploration and development, on the one hand, and revenue generation from mining, on the other hand. In addition, the fact that major mineral deposits occur in remote areas characterised by poor social and physical infrastructure raises the costs of doing business, but also increases the positive impact. In addition, there are currently limited skills and financial resources

and services available within the country. Thus, significant expenditure for mineral operations will be initially have to be made outside the country in bringing in the requisite skills and technical and financial resources, until such time that these are developed and become available locally. However, known mineral assets with a low delineation risk need to be competitively bid to ensure transparent price discovery, in order to maximise the nation's share of the value of these non-renewable assets.

The Government of Liberia recognises the need to devise a fiscal regime that assures the country of fair value for its resources while offering sufficient incentives that will ensure fair and reasonable return to private investors. Such a regime should allow the investor to recover exploration and development outlays in a timely manner, to achieve an acceptable rate of return commensurate with risk and to meet financial obligations to creditors and suppliers. The government shall institute a well-designed fiscal regime that encourages investment, optimises economic linkages, exemplifies transparency, and captures reasonable and sustained revenue for the Liberian people. Fiscal policies that include tax incentives geared toward a fiscal environment that caters to the interests of both the government and the investors shall be implemented within the confines of achieving national fiscal and regulatory economic uniformity.

The policies shall be based on the New Mining and Minerals Law of 2000, the Public Procurement & Concessions Act and the Revenue Code of the Government of Liberia and shall be in conformity with best international practices in the mineral industries as well as national exigencies. Mineral deposits often embody "resource rents", also known as , "differential rents", which are profits in excess of the normal rate of return, arising from the particular above average nature of the deposit (grade, yield, location, etc.), as well as "windfall rents" arising from excess demand over supply. Such excess rents need to be equitably shared between the asset owner (Liberia) and the asset exploiter. The new Liberia Revenue Code (LRC) caters for this in a transparent an equitable manner through the "Resource Rent Tax", however the threshold and rate of this tax will be adjusted, in consultation with the Minister of Finance, to ensure a fair return to the investor.

The goal is to establish a fiscal regime which:

- (1) optimises the inherent value of the mineral resources;
- (2) is efficient (in that it encourages optimal extraction and avoids selective mining of high grade ore);
- (3) garners an equitable share of the resource rents for the nation and the developer;
- (4) allows for reasonable stabilisation of specific taxes for defined periods;
- (5) uses internationally best-practice instruments;
- (6) is transparent & competitive and takes account of African trends;
- (7) is coherent and simple to administer,
- (8) eliminates non-standard incentives for specific rights holders, and
- (9) provides mechanisms to ensure:
 - (a) local processing (value addition),
 - (b) the development of local supplier industries,
 - (c) increased training and employment of locals,
 - (d) local technology development (R&D) and
 - (e) the integration of mining with other economic sectors.

A process of reviewing the fiscal regime for mining is underway which, in addition to the above as objectives, will also seek to:

- (1) establish capacity, procedures and methods to ensure that taxes owed to the Government are properly assessed and collected,
- (2) encourage easy availability of pertinent information on fiscal policy, the tax regime and other pertinent legislation for mineral operations and
- (3) provide mechanisms for a sufficiently stable regime to provide investors with an adequate time horizon for planning and achieving adequate returns on investment.

6 Competing Land Rights and Land Use Options

Mining involves intensive use of land and can adversely affect other uses. The Government of Liberia shall establish a framework for the evaluation and management of competing land use options with a view to maximising the sustainable developmental potential for the nation and future generations. This will involve recognition of the rights of other land users, the development of procedures for identifying and consulting potentially affected communities and persons as well as appropriate compensation principles, including criteria for considering resettlement options. Adequate administrative mechanisms and procedures shall be put in place to mitigate conflicts arising from competing land use.

7 Environmental Stewardship and Social Responsibility

Among the key principles set out in Liberia's environmental policy are that development should be based on sustainable natural resource use and sound management and also that full environmental and social costs or benefits foregone should form part of public and private sector planning. The policy will also develop an integrated and multi-sectoral systems approach to resource and environmental planning. The application of this approach and these principles to decision-making relating to and the conduct and supervision of mineral operations requires compliance with the environmental protection laws of Liberia and international best practices in the sustainable use of the natural resources. The National Environmental Protection Agency (EPA) of Liberia is central to the formulation and implementation of relevant principles and guidelines and in this regard customised environmental protection guidelines for mineral exploration and exploitation will be formulated jointly by the EPA and the MLME.

No significant mineral operation will be permitted without an environment and social impact assessment having been conducted, evaluated and approved by the Liberia Government. Plans for managing environmental and social impacts must be incorporated into the assessment reports. These must, right from the inception of the operation, include plans for redressing physical impacts upon closure of the mine as well as for sustaining community livelihoods thereafter.

The conduct of impact assessments must involve early consultation with the potentially affected public and open hearings will generally constitute a part of the evaluation.

The Government of Liberia is committed to nurturing an environment for compliance and enforcement with the highest standards of corporate social responsibility by entities involved in mineral operations.

8 An Integrated Mining Sector

While the development of Liberia's mineral resources will generate revenue and provide materials for reconstruction, the sector's contribution to national development would exhibit the multiplier effect if mining activity were better integrated into the national economy. In that regard, opportunities for fostering up-down- and side-stream value addition will be pursued. As industrial minerals sometimes have a greater potential for linkages with other sectors of the economy, attention will be paid to encouraging their development.

The concept of Spatial Development Initiatives (SDIs, also known as "Development Corridors") was developed in southern Africa and is based on using high-rent resource exploitation projects to serve as anchors for the development of infrastructure that can then underpin the development of other sustainable economic potential such as agriculture (& agro-processing), forestry (& processing), tourism, etc. and other related ancillary industries in the area. The promotion of such integrated Spatial Development Initiatives, to unleash the full growth and development potential, will form an important feature of Liberia's resources development policy.

The government will encourage greater infrastructure linkages -considering that many mining projects require substantial infrastructure from mine to port and consume large amounts of electricity and water. The government will ensure that infrastructure needs of large-scale mines are integrated into national and regional economic planning with appropriate regulatory framework to ensure open access at non-discriminatory prices, for the infrastructure to benefit as many people and sectors as possible

The development of local small, micro and medium-scale enterprises (SMMEs), especially in the procurement of goods and services, will be encouraged.

The Government of Liberia will look for possibilities for promoting forward linkages. Studies will be undertaken to explore the potential for such forward linkages in the iron and steel industry, for development of lapidaries and jewellery industry, for establishing gold refineries and jewellery industries, and for local fabrication using some of the country's mineral resources.

Linkages into the local human infrastructure (skilling, technology transfer & development, universities, colleges, etc.) will also be facilitated.

These linkages will be optimised through integrated spatial planning and the formulation of appropriate economic incentives and disincentives that will encourage the mining companies to deepen their economic footprint within Liberia.

To pursue viable policies for integration, there is a need to take account not only of the Liberian economy but more broadly the economies of the Mano River Union, ECOWAS and the African Union. In order to achieve viable markets and critical economies of scale Liberia will progressively integrate into the larger African markets in terms of both mineral inputs and outputs.

The minerals sector needs to be fully integrated into poverty reduction and other national development strategies in order to achieve holistic growth & development.

9 Artisanal and Small-Scale Mining (ASM)

The artisanal and small-scale mining (“ASM”) sector has the potential to create employment, generate income and help to reduce poverty in rural areas and to stem migration from the rural areas to urban areas. However, it also has the potential for significant environmental degradation, negative social and health and life-threatening pollution of bio systems (e.g. mercury from ASM gold recovery).

An integrated approach is required in addressing ASM issues. Since ASM is largely a rural activity, any programme for it needs to be linked with rural development plans and designed based on a clear profile of who are engaged in the activity, when they mine and what else they do.

Many ASM miners require training in business and technical skills, to assist them to mine sustainably, as well as other skills to help them in their alternative economic activities. The Government of Liberia will facilitate the provision of such skills and the modernisation of the sector by giving access to appropriate technologies, such as mercury-free gold processing. The Government of Liberia will also make available extension services to support ASM operations through technical advice and the facilitation of capital (micro-loans) schemes. Work will be done to identify areas to be designated for ASM support and monitoring. The procedures for licensing ASM are being evaluated with a view to simplifying them and catering for illiterate citizens

To enable artisanal and small-scale miners to obtain financial facilities, consideration shall be given to enhance the creditworthiness of their operations and license tenure.

Artisanal and small-scale miners need help in procuring lawful access to deposits, to markets and to information about fair prices for their products. A regime for licensing buyers of their products, with an accessible register of persons so licensed will help in this regard. The establishment of assay laboratories to determine the content of ore offered for sale can reduce opportunities for buyers to take advantage of the miners as well as appropriate technologies to produce higher grade (standard) products. The development of an internet-based portal for marketing precious minerals would also assist the miners to obtain technical & business advice as well as competitive prices. While a number of the ventures identified here will not be undertaken by the state, to the extent that reasonable incentives and the streamlining of procedures can encourage private investment, these will be pursued.

The artisanal and small-scale mining sector could be strengthened by the miners organising themselves into associations and, in some instances, cooperatives, in order to improve economies of scale and creditworthiness.

The relationship between large-scale mining enterprises and the ASM sector need not be an antagonistic one. The smaller-scale miners can benefit from technical inputs and advice from the large-scale operators as well as providing markets for further processing at the large-scale facilities (the “out-grower” concept). Forms of co-operation can help the large scale miners reduce policing costs and gain acceptance and credibility in the community.

10 Quarrying (sand, stone, clay and laterite mining)

The Government of Liberia recognises the need for special procedures to regulate mining of construction materials for the reconstruction of the country. There is, however, a growing concern on beach erosion caused by uncontrolled sand mining. The Government of Liberia shall put mechanisms in place to ensure sustainable mining of industrial rocks and minerals for construction and traditional purposes.

11 Transparent Benefits from Mining

The Government of Liberia is committed to providing information on available revenue and other benefits obtained from mining. To this end, it will adhere to the principles elaborated by the Extractive Industries Transparency Initiative (EITI).

The Government of Liberia will ensure that communities adversely affected or that could be thus affected by mining operations derive regular and significant benefits from those operations. A predictable formula shall be put in place to determine such benefits, which shall include but not be limited to revenue allocation, access to employment, the provision of infrastructure for local use and resources for local education and skills formation. Mining companies will be encouraged to develop local supply chains for their purchases, thereby integrating themselves into the local economy.

The Government of Liberia will also strive to maximise the wider benefits from mining on the regional and national economies, in a transparent and equitable manner.

12 Developing with Broad Participation

The Government of Liberia policy shall encourage broad and more direct participation of all stakeholders which shall promote critical social acceptance of mineral projects. Thus both project sponsors and Government have responsibilities for developing and disseminating procedures to enhance effective consultation and participation. The facilitation of local equity participation in mining ventures could also help in enhancing acceptance.

13 Building Capable Institutions

The Government of Liberia shall allocate a portion of revenue derived from mineral resources to strengthen the capacity of relevant state monitoring and promotion institutions. The Government of Liberia acknowledges the weak state of its institutions, whether of governance, facilitation, promotion or training. Securing funding to strengthen them is a major challenge to which it shall devote attention. In addition the Government of Liberia will seek to facilitate the establishment and growth of private sector entities to underpin a vibrant mining sector in areas such as finance, services, training/skilling, suppliers and consumers of minerals.

14 Investing for the Future (Sustainable Investment)

Mining resources are finite. The wealth generated from mineral resources has to be harnessed to provide a platform for development and growth well after they are exhausted. Revenue accrued from the nation's mineral resources shall also be invested in other forms of capital, especially human and social infrastructure, as well as social assets. It calls for prudence in investment decisions, fiscal discipline and the effective monitoring of disbursements and expenditure. We must build the capacity to predict and manage our revenues even as they fluctuate because of commodity price changes.

In this regard we need to ensure that mineral extraction creates the maximum local economic linkages whilst this temporal window of opportunity is still open, as these linkage industries can continue post-mining.

15 Expected Outcomes

The overall goals can be expressed in terms of broad-based development, growth and poverty reduction and significant improvement in the governance culture of the country. In the end, the performance of government has to be measured by reference to its contribution to these broad goals.

The impact of the minerals sector on the broad national development goals will be assessed in terms of its contribution to:

- (1) national revenue and foreign exchange earnings,
- (2) the creation of inclusive sustainable employment,
- (3) the provision of raw materials for down-stream industries & national reconstruction,
- (4) the improvement in social and physical infrastructure,
- (5) industrial development (up-, side- & down-stream linkages) and the stimulation of new economic activity through the provision of the requisite infrastructure;
- (6) positive impacts on the environment and local communities;
- (7) development of sustainable ASM operations and communities;
- (8) the improvement in human infrastructure (skills formation & knowledge creation) and
- (9) technology transfer and development.

A scorecard will be formulated to enable government to monitor these contributions.