



REPORT OF THE COMMITTEE ON ENVIRONMENT, SCIENCE AND TECHNOLOGY ON ENVIRONMENTAL CHALLENGES IN GHANA

1.0 INTRODUCTION

On the commemoration of the World Environment Day in June 2013, the Deputy Minister for Environment, Science, Technology and Innovation, Hon. Dr. Bernice A. Heloo (Mrs), made a Statement on the Floor of Parliament on the theme **“Think, Eat, Save”**. She drew attention of the House to explore means of eradicating hunger and preserving the environment through sustainable environmental practices.

The statement also highlighted some activities that contribute to major environmental challenges. These activities include illegal mining operations, pollution of water bodies, indiscriminate dumping of refuse and the mode of waste management, environmental degradation (forest and soil degradation), use of harmful chemicals for fishing and the impact of climate change.

In view of the passion expressed by Hon. Members and the in-depth concerns they raised in their contributions to the statement made, the Rt. Hon. Speaker subsequently referred the concerns raised to the Select Committee on Environment, Science and Technology for further enquiries and report to the House in accordance with Orders 156 and 185 of the Standing Orders of Parliament.

2.0 TERMS OF REFERENCE

The Committee observed that the contributions made by Hon. Members on the floor of the House were so varied and broad so in order to effectively present an in-depth report to the House, the Committee narrowed down the scope of enquiry to the **activities of illegal mining operators (Galamsey), waste management and climate change.**

- The Committee examined the causes of illegal mining, poor waste management and climate change
- Assessed the appropriateness of the existing institutions in dealing with the menace as well as the robustness of the current laws, policies and programmes for controlling the concerns in the country
- Assessed the technical and financial capacity as well as other constraints of the Agencies responsible for regulating the various sectors
- Made recommendations to the House on the way forward within the context of its mandate ie law making body, approval of public funds, representational and oversight responsibilities

3.0 METHODOLOGY

The Committee adopted the under-listed methodology in the enquiry:

- organised a stakeholders meeting to solicit views from experts and professionals in the field to narrow down the scope of enquiry
- an overview of the legal framework in respect of illegal mining in Ghana,

- a field visit to Amansie West and Dunkwa on Offin Districts to interact with the communities mostly affected illegal mining activities and to also obtain first-hand knowledge on the issues under consideration
- a field visit to Accra Metropolitan Area and Zoom Lion waste treatment sites

4.0 **ACKNOWLEDGEMENT**

The Committee is grateful to the Environmental Protection Agency (EPA), the Minerals Commission, Ministry of Environment, Science, Technology and Innovation, the Metropolitan and District Chief Executives of Accra, Dunkwa on Offin and Amansie West as well as the chiefs and people of these communities for the support and insightful inputs provided during the field visits. The Committee is also grateful to the management of Zoomlion Group of Companies.

5.0 **REFERENCE DOCUMENTS**

The Committee referred to the under-listed documents during the enquiry:

- The 1992 Constitution
- Standing Orders of the House
- Minerals and Mining Act, 2006 (Act 703)
- Minerals Commission Act, 1993 (Act 450)
- Environmental Protection Act, 1994 (Act 490)
- Water Resources Act, 1996 (Act, 522)

6.0 BACKGROUND

ILLEGAL MINING

PDNC Law 218 was passed in 1989, to legalise the small scale mining operations in the country. PDNC Law 218 and other related mining laws were later consolidated by the Minerals and Mining Act, 2006 (Act 703). In spite of these laws, galamsey operations have been on the ascendancy in almost every part of the country.

Galamsey activities is not only restricted to the extraction of minerals but have also extended to stone quarrying which takes place in some part of the country. Galamsey activities are now being operated in eight (8) out of the ten (10) regions of the country. These operations are in the Eastern Region (mainly, Kibi, Oda, Nkawkaw & New Abirem); Central Region (mainly Ayanfuri & Dunkwa On-Offin & Assin and Twifo Praso), Western Region (almost all the districts especially Tarkwa - Nsuaem, Prestea – Huni Valley, Wassa Amenfi & Bibiani); Ashanti Region (Obuasi, Amansie West District & Konongo); Brong Ahafo; Northern, Upper East and Upper West Regions.

6.1 Legal frameworks Regulating Mining in the Country

Mining operations in Ghana is regulated by the Minerals and Mining Act, 2006 (Act 703). The Act categorizes mining as either small or large scale depending on the size and the legal framework within which the operation takes place. It recognises Minerals Commission, Environmental Protection Agency and Water Resources Commission as principal institutions for regulating the sub-sector.

Small Scale Mining Concessions

Sections 82 to 99 of the Minerals and Mining Act, 2006 generally specify the guidelines for small scale mining operations in the country. Under the Act, only citizens of Ghana, who have attained the age of 18 and above and

have obtained a license from the Minerals Commission, qualify to undertake small scale mining operations in the country. The maximum land area permissible for small scale mining is 25 acres. The Small scale concession license is usually valid for five years but could be renewed for another five years upon expiration of the first term.

Large Scale Mining Concessions

The large scale concession is usually more than 25 acres either as a block (21hectares) or blocks of mining concessions joined together. The following are the steps involved in acquiring a final license in large scale concession usually referred to as 'Mining Lease'.

Reconnaissance License

A Reconnaissance License confers on the holder the right to search for a specific mineral within the licensed area by geochemical and photo-geological surveys or other remote sensing techniques. Except as otherwise provided in the license, Reconnaissance License does not permit drilling, excavation or other sub-surface techniques. The license is usually issued for a period of one year which may be renewed by the Minister.

Prospecting License

A Prospecting License allows the holder the exclusive right to search for specific minerals by conducting geological, geophysical and geochemical investigations to determine the extent and economic value of any deposit within the licensed area. Drilling, excavation or other sub-surface techniques are permitted under the prospecting license. The initial grant of the license is limited to three years and may be renewed up to a period not exceeding three years.

Mining Lease

The grant of a Mining Lease gives the holder the right to mine, win or extract specified minerals within the lease area. The lease may be granted to the holder of a prospecting licence or any person who establishes to the satisfaction of the Minister that a mineral to which the lease relates exists in commercial quantities within the proposed lease area and can be mined at a profit. The lease is issued for up to thirty years subject to renewal for a further thirty-year term.

Minerals Commission Act, 1993 (Act 450)

The Minerals Commission Act, 1993 (Act 450) provides a legal framework for an institution for the regulation, management and the utilisation of minerals in the country.

The Commission is principally responsible for the following:

- i. regulation and management of the utilisation of mineral resources and the co-ordination of the policies in relation to them;
- ii. formulation of national policy for exploration and exploitation of mineral resources with special reference to establishing national priorities having due regard to the national economy;
- iii. advise the Minister on matters relating to Minerals;
- iv. monitor the implementation of laid down policies of the Government on minerals and report on this to the Minister;
- v. monitor the operations of the bodies or establishments with responsibility for minerals and report to the Minister;
- vi. secure a firm basis of comprehensive data collection on national mineral resources and the technologies of exploration and exploitation for national decision making.

Environmental Protection Act, 1994 (Act 490)

The Environmental Protection Agency (EPA) was established by Act 490, as the lead agency for environmental protection in Ghana. The Agency is mandated under the EPA Act 1994, (Act 490) to oversee, co-ordinate and regulate all issues regarding the environment in Ghana. The Act prescribes a set of functions required to adequately protect and manage the environment in Ghana. These functions include:

- i. To advise the Minister on the formulation of policies on the environment;
- ii. To coordinate the activities of bodies concerned with aspects of the environment;
- iii. To collaborate with national, and international agencies relevant for the environmental act;
- iv. To issue environmental permits and notices;
- v. To prescribe relevant standards and guidelines;
- vi. To ensure compliance with EPA act and with environmental impact assessment procedures;
- vii. To conduct investigations into environmental issues and advise the Minister;
- viii. To promote relevant studies, research, surveys and analyses;
- ix. To initiate and pursue education for public awareness on the environment;
- x. To promote effective planning in management of the environment;
- xi. To develop a comprehensive database on the environment;
- xii. To conduct training programmes and publish information on the environment;
- xiii. To impose and collect environmental protection levies.

Water Resources Commission Act, 1996 (Act 522)

The Water Resources Commission is mandated by law to regulate and manage the utilisation of water resources, and co-ordination of related policies.

The Commission is also responsible for the following:

- i. Initiation of a comprehensive plans for the utilisation, conservation, development and improvement of water resources;
- ii. monitor and evaluate programmes for the operation and maintenance of water resources;
- iii. Advise pollution control agencies in Ghana on matters concerning the management and control of pollution of water resources; and
- iv. Advise the Government on any matter likely to have an adverse effect on the water resources of Ghana.

Section 13 of the Act provides that a person shall not divert, dam, store, abstract or use water resources, or construct or maintain any works for the use of water resources unless for the purposes of using the water resources for fighting fires or domestic purposes.

Observations – Illegal Mining

The Committee observed that, galamsey activities are now being operated in about eight (8) out of the ten (10) regions of the country and the increasing rate of this is alarming. The Committee further observed that galamsey activities are not only restricted to the extraction of minerals but have also extended to stone quarrying which is mainly taking place in the eastern region and the mountainous areas in the country.

After a careful study of the existing laws and regulations, the Committee observed that some mining companies with either Reconnaissance or Prospecting Licenses have leased part of their concessions to small scale companies or illegal mining operators in contravention to the provisions in Section (14) (1) of the Minerals and Mining Act, 2006 (Act, 703) which provides that' *"mineral right shall not in whole or in part be transferred, assigned, mortgaged or otherwise encumbered or dealt in, in a manner*

without the prior approval in writing of the Minister, which approval shall not be unreasonably withheld or given subject to unreasonable conditions";

The Committee took note of the fact that under Section 23 (2) of Act 703, land owners are required to be paid annual ground rent. This provision has not been properly adhered to, culminating in conflicts between chiefs, land owners and the mining companies particularly, the illegal mining operators;

The Committee also took note that where there have been an arrest and confiscation of equipment's from illegal mining operators, the laws do not provide for what should be done to the ceased equipment. The law enforcement agencies eventually had to release the machinery back to the operators especially foreigners who then go back to the field to continue the operation in other places or sell the machines to other companies.

The Committee observed that, the process of license acquisition specified under sections 12 and 13 of Act 703 is 150 days. The Committee however gathered that more often than not, the process of acquiring a licence can travel up to a period of 2 years and even more. Applicants who are impatient usually become frustrated and enter the concessions illegally.

The Committee noted that, Section 15 (1) of the Water Resources Commission Act, 1996 (Act 522), provides that where it appears to the Commission that the use of water resources for a purpose at a place poses a serious threat to the environment or to public health, the Commission may serve on the user of the water resources, an enforcement notice requiring the user to take the necessary steps to prevent or stop the activities. It is an offence under Section 15 (4) of the Act for a person to use water resources for anything other than domestic use or fire fighting.

Section 24 of the Act 522 also provides that,

“a person who, except in accordance with the provisions of this Act or with the approval of the Environmental Protection Agency

(a) interferes with or alters the flow of, or

(b) pollutes or fouls,

a water resource beyond the level that the Environmental Protection Agency may prescribe, commits an offence and is liable on conviction to a fine not exceeding five hundred penalty units or to a term of imprisonment not exceeding two years or to both the fine and the imprisonment”.

In view of the above the Committee observed that, Water Resource Commission has not been firm in its responsibility and has allowed individuals and companies to pollute and destroy water resources across the country with impunity.

Environmental and Socio-Economic Implications of Illegal Mining in Ghana

ENVIRONMENTAL IMPACT

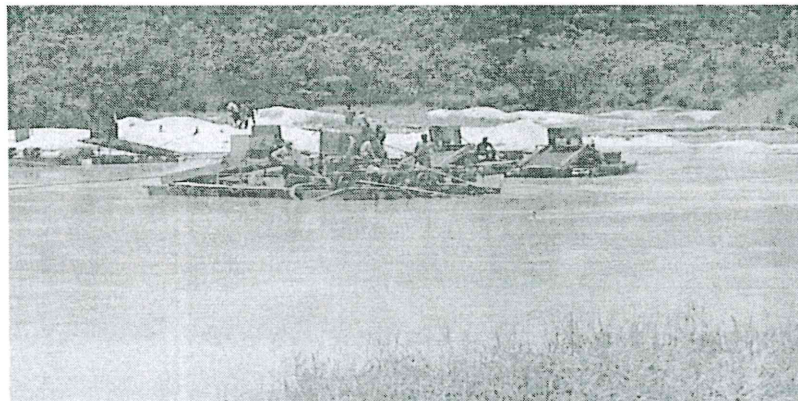
Surface and Ground Water pollution

The Committee observed during the field visits that almost all the rivers and streams in the mining communities have huge excavators packed by the river banks for exploring, prospecting or excavating the earth for gold. The Committee further observed that, in those mining areas, every parcel of land or water body is a potential deposit for gold. Consequently, the continuous use of Sodium Cyanide and Mercury for gold processing and discharge of the effluents into the river systems has completely destroyed the aquatic

ecosystems and affected the supplementary protein needs of catchment communities.

Destruction of River Bodies and Wetlands

The Committee noted that there has been a total destruction of river bodies in the mining communities as a result of dredging and a complete diversion of entire section of some river courses for gold. Wetlands, which form part of the river systems, are also being destroyed. According to a study undertaken by the Council for Scientific and Industrial Research (CSIR), if this situation is not addressed to salvage the water bodies, Ghana will experience water shortage in the next 25-30 years as almost all the wetlands in the country are drying up as a result of human activities. Four major rivers in the country - Pra, Offin, Ankobra and Birim are under serious threat of completely drying out if urgent interventions are not put in place.



The above pictures depicts the state of River Offin

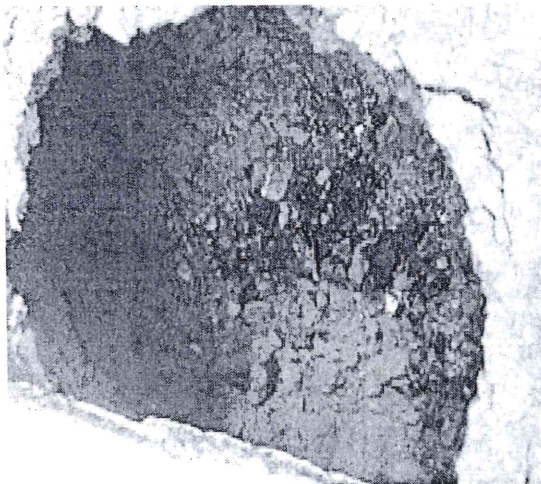
Destruction of arable lands, food and cash crops farms

The use of heavy equipment by licensed and illegal mining operators (local and foreigners) has caused rapid destruction of large tracts of arable lands, food and cash crops, particularly export crops like cocoa, coffee and rubber.

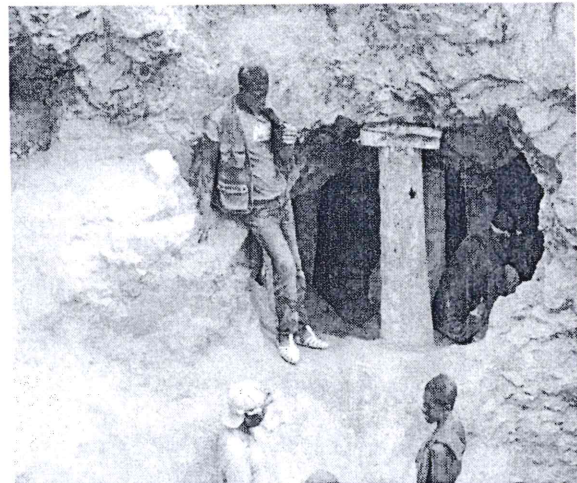
SOCIAL IMPACT

Threat to public safety

The Committee noted that almost all the illegal mining operators abandoned the used facilities after their operation which includes pits filled with stagnant water, slime dams containing mud and water, trenches as well as ditches, disregarding the serious threats the damaged areas poses to people in the community. The Committee was informed that several school children and even the operators themselves have become victims to such activities in almost all the mining areas where galamsey is very rampant and this occurs mostly during the rainy season when the affected areas are flooded.



Galamsey operations in the middle of a road



One of the Deadly pits

Loss of lives

The Committee observed that all the illegal mining operators conduct their operations without any reference to standard operating procedures. This has resulted in fatalities at various parts of country.

The following present few examples:

- i. 1st March 2011, **two (2) brothers** perished at Kibi, Eastern Region

- ii. 5th July 2011, **hundred (100) people died** at Dunkwa-on-Offin, Central Region;
- iii. 25th August 2011, **two (2) people died** at Four Bungalow near Prestea Prestea-Huni-Valley District, Western Region;
- iv. 10th September 2011, **one (1) person** died at Bosume-Fraho, Ashanti Region; and
- v. 11th February 2012 **five (5) people** died at Impamprum near Subriso-Fante, Ashanti Region.

Available statistics from Ghana Chamber of Mines indicates that in 2011, three hundred (300) precious lives were lost through illegal mining operations.



Images of deaths resulting from galamsey operations

Disruption of social and cultural cohesion due to invasion of foreigners

The Committee took note of the fact that the foreign illegal miners not only flout the national laws with impunity but also disrespect the traditional authorities and cultural values of the communities within which they operate.

The Committee again observed that as a result of the influx of foreigners (from outside the community, both local and foreigners), marriages have broken down and moral decadence such as prostitution, teenage pregnancy, disrespect among the youth, school dropouts and arm robbery among others are on the ascendancy. This has resulted in brutalities and fatalities as well as loss of human lives in many communities.



A Chinese gamamsey operator caught in the act during the Committee's visit

ECONOMIC IMPACT

Under-utilization of viable sites:

The Committee observed that, illegal miners, in a haste to mine and process ore, resort to inappropriate equipment and technologies. Their unconventional approaches end up making the area unattractive to prospective investors who could potentially mine the area on a larger scale to provide more employment and income to the country.

Loss of economic gains due to destruction of cash crops

The Committee noted that in a bid to get "quick money", some farmers have sold their cocoa and oil palm plantations and other cash crop farms to illegal mining operators. This has resulted in the huge reduction of such crops for export.

Threat to food security due to destruction of farms and arable lands

The Committee further noted that farms and arable lands are being destroyed due to the excessive use of dangerous chemicals for mining. The repercussions are that the lands have not only become less fertile for food production but the quality of farm produce especially vegetables and fruits cannot be guaranteed, this has a lot of implications on the acceptability of some of peoples preference for imported food items and loss of foreign exchange to the country. Another major implication is the loss of employment as farming becomes unattractive to the majority of people in the agricultural areas due to the lack of market for the farm produce and also the urgency of the energetic youth to engage in galamsey operations.

The Committee observed that there is lack of proper monitoring and supervision by state agencies in charge of the mining sector. For instance, the Committee was informed that there are only two officers from Minerals Commission who are in charge of monitoring and supervision in the Ashanti and Western Regions. This coupled with lack of logistics seriously undermine the efforts of these officers to monitor these heavily armed illegal mining operators in the mining communities. There is also the lack of well-equipped security personnel as well as connivance of some security personnel, chiefs and individual community members to protect the community from galamsey operators.

5.0 BACKGROUND - WASTE MANAGEMENT

Waste management has become a very critical development challenge in the country in recent years as huge sums of monies which could have been channelled into productive sectors of the economy have to be used to manage waste. The situation is becoming more alarming as a result of rapid urbanization and lifestyle changes.

Legal Framework for Waste Management

The Committee noted that there were several enactments which regulate waste management and sanitation related issues in the country. These include:

- i. The 1992 Constitution - clause 41 (k) which provides that, *"It shall be the duty of every citizen to protect and safeguard the environment"*;
- ii. Criminal Code 1960 Act 29 Chapter 8 (Public Nuisance) - which criminalises throwing of rubbish in the street;
- iii. The EPA Act 490 which mandates EPA to issue environmental permits to control hazardous or potentially dangerous waste; co-ordinate the activities of organisations controlling the generation, treatment, storage, transportation and disposal of industrial waste etc.
- iv. Environmental Policy of Ghana (Revised 2012);
- v. The Local Government Act, 1993 (Act 462); and
- vi. MMDAs bylaws

The Committee observed that though, there are enough statutory provisions for ensuring effective and efficient provision of environmental sanitation services, most of these strategies adopted are "fire fighting", curative and 'end-of-pipe' approaches instead of being anticipatory and preventive in approach.

5.1 OBSERVATIONS- WASTE MANAGEMENT

Economic Impact

The Committee observed that more than 22 human diseases are traceable to improper waste management. Wastes also have a greater potential to pollute the air and water. For instance, tailings from mining operations often spill hazardous chemicals like Cyanide into the water supply systems. Rubbish dumped into rivers also pollute the water bodies making it dangerous for humans and aquatic survival.

According to a report released by the World Bank's Water and Sanitation Program (WSP) of April 2012, Ghana's economy lost 420 million Ghana Cedis each year (US\$290 million, 1.6 percent of GDP) due to poor sanitation.

Sanitation health-related costs also account for nearly 19 percent of the total health costs, while access, time and productivity losses accounted for about 7 percent.

The desk study, Economic Impacts of Poor Sanitation in Africa observed that the majority (74 percent) of these costs come from the annual premature death of 19,000 Ghanaians from diarrheal related disease, including 5,100 children under the age of 5, nearly 90 percent of which is directly attributable to poor water, sanitation, and hygiene.



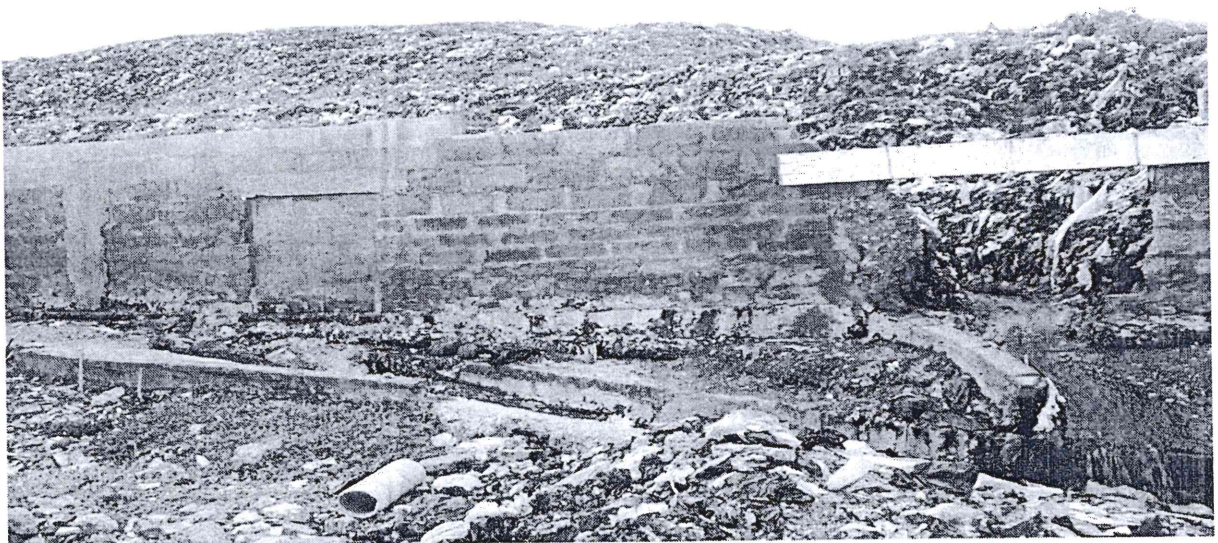
Landfill site



Stagnant water leads to mosquitoes breeding



Illegal construction of houses in waterways



Landfill sites



Debris at the Sea shore



Source of water for the irrigation of vegetables for human consumption



Human excreta being deposited into the sea

6.0 BACKGROUND - CLIMATE CHANGE

Climate change is a significant change in the statistical distribution of weather patterns over a period of time. Climate change is caused by factors such as biotic processes, variations in solar radiation received by the earth, plate tectonics, and volcanic eruptions. Climate change simply refers to a change of climate which is attributed directly or indirectly to human activity that alters the composition of the global atmosphere resulting in natural climate variability. Increasingly, certain human activities have also been identified as significant causes of recent climate change, often referred to as global warming.

Legal Frameworks for Managing Climate Change in Ghana

Ghana has joined the global community by signing onto relevant international protocols and treaties such the UNFCCC and Kyoto Protocol. These protocols seek to join global effort to stabilize the greenhouse gas concentration in the atmosphere at a *level* that would prevent dangerous anthropogenic interference with the climate system.

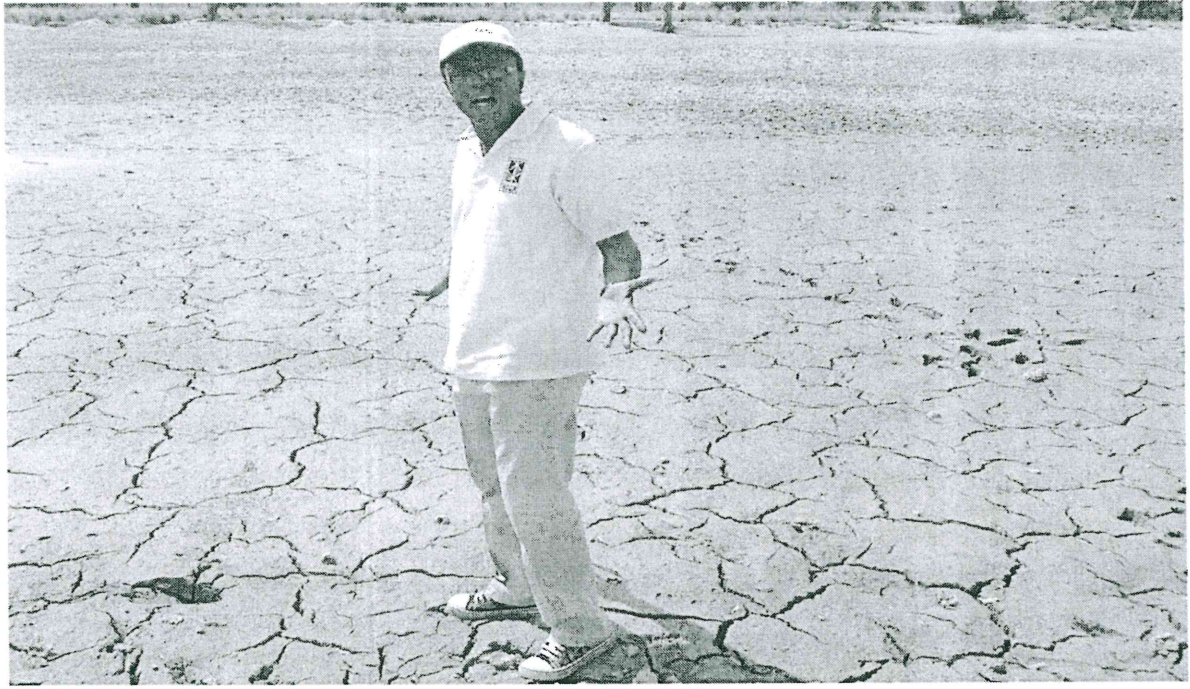
Besides, climate change has also been integrated in our national development plans. Currently, the Ministry of Environment, Science, Technology and Innovation is coordinating the development of a National Climate Change Policy.

6.2 OBSERVATIONS - CLIMATE CHANGE

The Committee observed during the field visit that the symptoms of long droughts are some of the visible signs of climate change in the country. The production of fisheries from some rivers has slightly decreased due to the changes of temperatures in the water bodies. The Committee further

observed that rivers and lakes are drying up. Plant and animal ranges have also shifted and trees are flowering sooner.

Visible Signs of Impacts of Climate Change



Effect of Climate variability and agriculture



Symptoms of long droughts

7.0 GENERAL RECOMMENDATIONS

Having made the above observation the Committee presents the following recommendations for the consideration of the House:

Illegal Mining:

- i. The Minerals Commission should draw up and furnish the House with a comprehensive and sustainable plan or roadmap as to how the galamsey issue should be addressed.
- ii. The Commission should also aggressively prosecute large concession mining companies who have on their own leased part of their concession to small scale mining operators for illegal mining.
- iii. The Report of the Presidential Taskforce should be presented to Parliament to enable the House assist in the recommendations of the report.
- iv. Pursuant to the Minerals and Mining Act, the District Assemblies should adequately inform the community of the various mining concessions leased to prospective companies to avoid internal strife within the communities.
- v. The Presidential Task Force should be adequately resourced to sustain the arrest and prosecution of illegal small scale miners especially foreigners, who are in contravention of Section 83(a) of the Minerals and Mining Act.
- vi. Pursuant to Sections 15 and 24 of the Water Resources Commission Act, 1996 (Act 522), the Committee recommends that the Water Resource Commission should as a matter of urgency, cause for the immediate prosecution of individuals or companies polluting the water bodies.
- vii. The Committee also urges government to intensify effort at creating jobs for the youth in the various mining communities to prevent them from engaging in galamsey activities.

Waste Management

- i. The Committee recommends that Metropolitan, Municipal and District Assemblies (MMDAs) should encourage more Public Private Partnerships (PPPs) and also create the enabling environment for the private sector to invest directly in waste management infrastructure.
- ii. The Committee also recommends for the promotion of research into affordable, simple and workable technologies for managing waste such as recycling, composting, incineration and waste - to - energy technologies.
- iii. The Committee further recommends that as a matter of priority and urgency, the Accra Metropolitan Assembly should adopt alternative ways of disposing human excreta and stop discharging them directly into the sea.
- iv. The Committee recommends that it is imperative to create awareness among the citizenry to change attitudes and habits on indiscriminate disposal of waste.
- v. City engineers should consider underground drainage system instead of the traditional open drains which encourages free and easy dumping of rubbish and waste.

Climate Change

- i. The Committee recommends that Metrological Services Department should be adequately resourced to provide timely weather information to the public, particularly to farmers to adjust to the patterns of climate change.
- ii. The Committee further recommends that the Ministry of Food and Agriculture and relevant research institutions such as CSIR and GAEC

should be adequately resourced to provide farmers with climate change adaptation technologies.

- iii. The Committee again recommends that effort at integrating climate change into national development plans should not be rhetoric but must be given serious attention.
- iv. The Committee also recommends for the intensification of the awareness creation on climate change, mitigation and adaptation techniques.

8.0 CONCLUSION

The threat to the socio-economic development of the country as a result of widespread illegal mining operations cannot be overemphasized. People are trapped to death in the pits created by the operators; arable lands are being destroyed; water bodies are being polluted and poisoned, posing survival threat to aquatic organisms and human beings; and the upsurge of conflicts within communities in which they operate.

The issue of Waste management in the country on the other hand is getting more complicated and difficult to deal with and there is eminent danger that it could ruin our developmental gains completely. It is therefore imperative to give environmental management the needed priority attention in our development plans.

Similarly, according to a recent study, damage due to Climate Change in the coastal zone in the form of flooding, land loss, and forced migration is estimated to be about \$4.8 million per annum by the year 2020 increasing to about \$5.7 million per annum by the year 2030. Losses in agriculture are estimated at to be about \$122 million per annum by the year 2030 and losses in transport and hydropower are estimated at \$630 million and \$70 million,

respectively by the year 2030. Total economy wide impacts are estimated to range from \$158–\$765 million per annum.

The Committee has dutifully discharge its responsibility and accordingly presents its report for the consideration of the House.

Respectfully submitted.



**HON. SIMON EDEM-ASIMAH
(CHAIRMAN, COMMITTEE ON
ENVIRONMENT, SCIENCE & TECHNOLOGY)**



**JOANA A.S. ADJEI (MRS.)
CLERK TO THE COMMITTEE**

November 2014

