

PROPOSAL FOR EMPOWERING PANCHAYATS AND MUNICIPALITIES TO BETTER REALIZE SUSTAINABLE DEVELOPMENT WITHIN THE INDIAN MINING SECTOR

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Abstract: This paper is about how to realize sustainable development within the Indian mining sector. The debate over sustainable development is an ongoing one and it has wide connotations with respect to the present environmental problems particularly in the context of mining. The latest issues associated with mining in India namely the illegal mining by the legally bound ones to prevent illegal mining calls for the need to have an appropriate controlling mechanism to better achieve sustainable development. The failure in counting the sanctity of environment as part of a developmental model for economic growth in extreme conditions of poverty in developing states as well as the thought of profit over sanctity in developed states pertain to the significance of sustainable development.

This paper, in four sections, analyzes the need to have a strong local governance to realize sustainable development in the mining sector. All scholars are unanimous in their opinion regarding the significance of sustainable development but they differ in what all things are to be considered to better understand the concept of sustainable development. Therefore the first part of the paper analyzes various definitions on sustainable development in order to arrive at an appropriate definition covering all necessary aspects for the better realization of sustainable development with less expense of time.

In the second part, this paper analyzes the various issues associated with mining sectors across the world including South Africa, Canada, India and Indonesia and suggest that the issues associated with sustainable development are not only developmental issues but also it has some socio-economic and political facets. In order to find equilibrium where the concept of sustainable development is safe there should felt a need to have a proper governing mechanism, which is capable of addressing social,

economic, political and developmental issues simultaneously. This paper suggests the grass root level of governance by *panchayats* and municipalities as an effective solution to the problems associated with mining. Local governments are close to problems and actors and they hold responsibilities in relation to various sectors namely energy, water and waste infrastructure, spatial development and educational policies, which are important for creating change.

The third section examines the successful examples of local governance from Indonesia, Sweden, the Netherlands and Norway. The comparative study of Sweden's Climate Strategy for Sustainable Development; Minewater Project, Heerlen, Netherlands and Norway's Environmental Policy for Sustainable Development substantiates the importance or primacy that should give to local governance. The author selected the particular example of Sweden's climate strategy because Sweden's local governments proved to be efficient beyond doubt in climate policy implementation for sustainable development. The Mine Water Project, Heerlen is became very crucial for the present study because the project proved the efficiency of municipalities in making local resources for the long-term sustainability and exists to be a good model to states for achieving sustainable development with respect to mining. A study on Norway's sustainable development policy is very crucial to this paper, since Norway ranked first for Human Development Index worldwide. The importance given to local governments helps Norway to achieve the first position with respect to Human Development Index.

The fourth section explores India's current approach towards sustainable development in mining sector. The paper concludes that municipalities and

panchayats should be given greater power to realize sustainable development in mining sector.

Keywords: Local Governance, Mining, Municipalities, *Panchayats*, Sustainable Development.

INTRODUCTION

The egg is good only if both yolk and white will be good [i]. The ‘egg of sustainability’ model by Prescott-Allen and Prescott-Allen (1997) characterized humans as the yolk and the ecosystem the surrounding white [ii]. Similarly for sustainability there should be equilibrium between environmental protection and developmental agendas [iii]. The debate over sustainable development is an ongoing one and it has wide connotations with respect to the present environmental problems particularly in the context of mining [iv]. The latest issues associated with mining in India namely the illegal mining by the legally bound ones to prevent illegal mining calls for the need to have an appropriate controlling mechanism to better achieve sustainable development [v]. The concept of sustainable development has become a controversial term among activists; academics and policy makers as awareness of different kinds of environmental threat have increased [vi]. Protection of nature is a prerequisite for survival of mankind since the relationship between nature and mankind is reciprocal [vii]. The failure in counting the sanctity of environment as part of a developmental model for economic growth in extreme conditions of poverty in developing states as well as the thought of profit over sanctity in developed states pertain to the significance of sustainable development [viii]. All scholars are unanimous in their opinion regarding the significance of sustainable development but they differ in what all things are to be considered to better understand the concept of sustainable development [ix]. Therefore the first part of the paper analyze various definitions on sustainable development in order to arrive at an appropriate definition covering all necessary aspects for the better realization of sustainable development with less expense of time.

This paper analyzes the various issues associated with various mining sectors across the world including South Africa, Canada, India and Indonesia and suggest that the issues associated with sustainable development are not only developmental issues but also it has some socio-economic and political aspects [x]. In order to find equilibrium where the concept of sustainable development is safe there should felt a need to have a proper governing mechanism, which is capable of addressing social, economic, political and developmental issues simultaneously [xi]. This paper suggests the grass root level of governance by *panchayats* and

municipalities as an effective solution to the problems associated with mining [xii]. The importance of local governments in connection with the concept of sustainable development was widely recognized since the Rio Declaration and Paragraph 28 of local Agenda 21 agreed in 1992 [xiii]. Local governments are close to problems and actors and they hold responsibilities in relation to various sectors namely energy, water and waste infrastructure, spatial development and educational policies, which are important for creating change [xiv]. To substantiate the proposition the paper analyzes the successful examples from Indonesia [xv], Sweden [xvi], the Netherlands [xvii] and Norway [xviii].

MATERIALS AND METHODS

Firstly this paper explores definition of sustainable development for better governance. Secondly this paper examines the obstacles to achieve sustainable development based on comparative study over mining sectors in South Africa, Canada, Bali, Goa and Karnataka. Thirdly this paper explores the need to strengthen local governance. This section then, conducts a comparative study of Sweden’s Climate Strategy for Sustainable Development; Mine Water Project, Heerlen, Netherlands and Norway’s Environmental Policy for Sustainable Development to substantiate the importance or primacy that should give to local governance. Fourthly this paper analyzes India’s current approach towards sustainable development in mining sector and finally concludes as municipalities and *panchayats* should be given greater power to realize sustainable development in mining sector.

DEFINING SUSTAINABLE DEVELOPMENT FOR BETTER GOVERNANCE

To define sustainable development is a Herculean task as sustainable development encompasses a variety of considerations, even contradictory. Sustainable development has to cover a variety of factors, while taking into account development. Therefore it is necessary to define the concept of sustainable development in connection with corporate sector to fructify the object of study. In 1987, The World Commission on Environment and Development defined sustainable development as, “development that meets the needs of the present without compromising the ability of future generations to meet their own needs” [xix]. The concept of sustainable development calls for the need to balance the ‘Right to Development’ [xx], which was a corollary of human rights, and the obligation to maintain and improve the environment [xxi]. Amartya Sen (1999) rightly pointed out that, “Development is not only the growth of GNP and therefore the issue of development, however, cannot

be separated from the frame work of human rights” [xxii]. This necessitates a sustainable policy frame work having a balance between social provision, safeguarding the environment and sound economics, described neatly as ‘people, planet, profit’ reflecting the need to take reasonable motives by considering environmental aspects [xxiii].

The concept of sustainable development has been interpreted in many ways; however, one should not forget the issues of both technology and equity [xxiv]. Sahasranaman (2009) considered sustainable development as, “The middle ground between industrialization and indiscriminate exploitation of nature” [xxv]. Ben Boer (1992) conceptualized sustainable development as, “A harmonious link between physical, economic and social aspects of environment and development” [xxvi]. Rees (1998) characterized sustainable development as, “a fully integrated approach to conservation and development by the world conservation strategy” [xxvii]. The document ‘*Caring for the Earth*’ defines the term sustainable development as, “improving the quality of human life while living within the carrying capacity of supporting ecosystems” [xxviii]. Tiwari (2010) argued that the Brundtland Report transformed sustainable development from an ecologically focused notion to a human-centered approach by establishing a link between social, economic and environmental issues. The environment was recognized as a fundamental element in any growth equation, rather than an obstacle to growth. Thus, sustainable development was identified with increasing earth’s support to human needs, by promoting living within the limits of nature [xxix]. Corporate Social Responsibility has been defined in many ways. For example Davis (1973) defined corporate social responsibility as, “Consideration of issues beyond the narrow economic, technical, and legal requirements of the firm” [xxx]. Salazar and Husted defined corporate social responsibility as, ‘An obligation to respond to the externalities created by market action’ [xxxi]. Hamann and Kapelus (2004) define corporate social responsibility as, “A concept whereby companies decide voluntarily to contribute to a better society and a cleaner environment” [xxxii]. All these definitions require corporations to minimize harm to the environment. However the interesting question then arises is whether corporations are willing to volunteer the obligation by themselves without any surveillance by government? The answer is probably not. Theory and practice are two different things and what usually happened was corporations have written their principles into their policy frameworks, but there was never been a check on whether these good principles are implemented. The FICCI- Ernst & Young Study surveyed sixty companies in India to understand the measures taken

by these companies for sustainable development [xxxiii]. The study found that fifty percentages of the companies do not have a formal mechanism to assess the risks associated with sustainable development [xxxiv]. Therefore some regulatory measures are necessary.

The concept of sustainability in mining sector was initially based on the economic sustainability of the companies engaged in mining activities, with the increased stress from environmentalists; this concept was intended to include the effects of mining activities on the environment. The proposition made by Joyce and Smith (2003) mirrored such a definition in the following way as “Using the economic engine by mining to build an economy that survives and is better off after the end of mining” [xxxv]. However time requires the expansion of this definition to include political, psychological, educational and social dimensions. Treurnicht (1997) define this concept as,

Including social and economic progress, which the basic needs of the present are satisfied. Future generations are not compromised by the definition because each generation must use their own capacity to satisfy their needs [xxxvi].

Coetzee (2001) added to this point by arguing that, “The word ‘development’ therefore carries with it the connotation of a far change moving from worst to better, evolving from simple to complex, or advancing away from the inferior” [xxxvii]. Therefore there exists a need to equalize sustainability in mining sector with corporate social responsibility and governance at the appropriate level as part of constitutional governance to ensure sustainable development.

COMPARATIVE STUDY IDENTIFYING OBSTACLES FOR THE REALIZATION OF SUSTAINABLE DEVELOPMENT

Mining sectors world over are facing various problems. This section explores the various obstacles to achieve sustainable development and analyze how the authorities concerned address the specific issues. Based on this analysis, this paper suggests that India may learn from the examples given below to give more power to local governments for the realization of sustainable development.

Case Study of Mining Sector in South Africa

The mining sector in South Africa has characterized decades of profiteering and unchecked neglect of developmental needs of surrounding communities [xxxviii]. Most of the communities surrounding South African mines are therefore synonymous with social problems that include poverty, poor health, unemployment, adult illiteracy, poor housing, family

disorganization, environmental issues and high influx of unaccompanied migrant labour [xxxix]. Therefore it becomes inevitable for the state of South Africa to better address the problems associated with mining sector [xl]. Recently, external forces, including globalization, the government through the *Mining Charter and the Mineral and Petroleum Resources Development Act* (MPRDA), and the communities have put pressure on mining organizations in South Africa to perform essential corporate duties, taking social responsibilities and work towards sustainable development in the areas that they operate [xli]. Under the South African Constitution mining is a state subject and there is no mining duty by provincial or local government [xlii]. However, the problems associated with mining largely come under provincial list and specific functions assigned with local government [xliii]. These issues will include lack of safety and health standards, high incidence of injury and diseases, lack of education of workers, problems with respect to mine downscaling and closure including environmental threats, effective disposal of wastage and so on [xliv]. In South Africa, throughout the territory there were a number of mines including small scale and large-scale mines [xlv]. This kind of distribution of mines calls for effective redresser mechanism at appropriate level of governance and there exists the need of finding sustainability in case of locally produced mineral products because the problems can only be solved by a governance mechanism which has close links with the issues. This will include giving of education to workers as well as local people regarding the use of safety measures and to avoid many kinds of diseases including AIDS. In South Africa the poor and unhygienic living conditions in connection with mines is a big issue for the local governments since they come within their authority. However the local governments cannot regulate the mining industries since mining is a state subject.

In view of stabilization of state economy it is very important for South Africa to attract foreign investments. At the same time it is equally important to ensure the rights of local people to a healthy environment and the better addressing of particular problems through policy measures in order to adjust externalities [xlvi]. The people residing near to mining areas are generally poor. Therefore measures based on local needs will become very important for raising the level of local economy. Coordination of awareness programmes and education to small scale and artisanal miners is crucial for the betterment of South African economy. National level government sometimes seems to be inefficient because of the locally borne nature of the problem [xlvii]. Many mines use the services provided by municipality however municipality has no much control over

mining industry. This is a major flaw in governance with respect to mining industries in South Africa [xlviii]. Public and private ownership is characteristic feature of South African mining industry and for the working out of the principle of tripartitism and consultation as a constitutional mechanisms, the role of local governments should be respected.

Case Study of Mining Sector in Canada

Mining represents a large sector in Canada's domestic and export economy [xliv]. The Canadian system of governance is based on a tripartite relationship between communities, companies and federal government [l]. Initially it was a bipartite mechanism not having any importance to local governance [li]. The problems faced by the uranium-mining sector in Northern Saskatchewan, Canada lead to the appointment of Bayda Commission in 1978 [lii]. Bayda Commission suggested the incorporation of local government to the bipartite body, which made it tripartite for the better realization of sustainable development [liii]. Accepting the Bayda recommendations, for matters have impact on sustainable development the Federal Government of Canada shares power with municipal governments [liv]. Government of Canada recognizes that sustainable development is a long-term process that requires the support and contribution of industries, non-governmental organizations, other governments and citizens [lv]. Government of Canada has a Federal Sustainable Act and which states that, "The Government of Canada accepts the basic principle that sustainable development is based on an ecologically efficient use of natural resources" [lvi]. The concept of sustainable development is largely based on the precautionary principle in Canada and thereby there are less adverse impacts on environment by the act of corporations [lvii]. To act upon the principle of sustainable development the Canadian Government act in hand with various levels of governments namely provisional and territorial governments and rendered enough support to the activities by municipal governments [lviii]. To support municipal governments there is a federal fund by the Government of Canada and the fund provides for loan, grants as well as education and training services to promote sustainable development [lix]. In Canada, many remote and rural communities exclusively depend on industries for their existence [lx]. The existence of dependence caused the situation of these communities vulnerable out of the following issues namely depletion of resources, remodeling of industry, shifts in the policy changes of government or market conditions and so on [lxi]. The closure of industries would definitely affect the long-term existence of these communities [lxii]. As a solution to the problem, provincial and territorial ministers for the local government focused their

attention on the matter to strengthen local governments [lxiii]. Local governments proved to be better instruments for recovery by the rural and remote communities. Local governments play an important role as coordinator of planning for mobilization of local economy and various collaborations to better achieve sustainable development. Canada's experience shows that the difficulties which arise during a transition phase can be better addressed by local governments through rendering advice to the whole community, education on changes and facilitation of open process for supporting strategies [lxiv]. In Canada, the role of the government, objectives and strategies with respect to mining industries for sustainable development are governed by the Minerals and Metals Policy of the Government of Canada: Partnership for Sustainable Development framed by Government of Canada in 1996 [lxv]. The Mining Association of Canada gave prime importance to sustainable development with respect to mining [lxvi]. Again Whitehorse Mining Initiative aimed at mobilization of community benefits from mining [lxvii]. The importance given to local governance enabled the Canadian mining sector to get rid of from obstacles to sustainable development.

Case Study of Mining Sector in Bali, Indonesia

Local governments in Bali, Indonesia play an important role in promoting sustainable development initiatives by effectively addressing the problems associated with coral mining which is very important for the Baltese economy [lxviii]. Thus the specific case of local governments in Bali, Indonesia attracts significance to the present study. In Bali, Baltese culture has very much importance in every aspect of development [lxix]. Baltese culture has good faith in local governments and local governments hold pivotal role in development activities [lxx]. Due to the advent of tourism and the connected developmental activities like establishment of hotels, resorts caused an adverse effect on the corals [lxxi]. The destruction of corals by mining for developmental purposes is the main obstacle to sustainable development in Bali [lxxii]. By giving importance to traditional culture as well as importance attached with local governments make Bali a microcosm to the evergreen concept of sustainable development [lxxiii]. Bali's coastline extends to 430 km and rich enough with coral reefs, mosaic of beaches, estuaries and mangroves [lxxiv]. The competition occurred in the areas of tourism, forestry, fisheries, agriculture, aquaculture and settlement resulted in severe environmental degradation. Baltese Sustainable Development Principles for finding stability with respect to coastal management and tourism recognizes the importance of local governments [lxxv]. There are a couple of

Baltese trilogies shooting to sustainable development through local involvement like 'Tri Hita Karana' [lxxvi] and 'Desa Kala Patra' [lxxvii]. The problems associated with coral mining better resolved through local initiatives and the local involvement to reduce the adverse impact by developmental activities and local decision making on infrastructure investments structured Bali as a tool to achieve sustainable development by local governance.

Case Study of Mining Sector in Goa, India

The Indian state of Goa is well known for its good deposit of Iron ore [lxxviii]. India's 60% of the Iron ore is coming from Goa [lxxix]. The continuous and illegal mining operations held in Goa leads to the severe environmental hazards like destruction of forests, flattening of hills, loss of silt from the fields, land degradation, ground and surface water pollution, accumulation of mining wastes, dust pollution and destruction of purity of beaches [lxxx]. The solution to the problems is not closing of mines but to find an equilibrium point between losses and gains, otherwise the concept of sustainable development will lose its momentum [lxxxi]. The International Development Research Centre (IDRC) Canada, conducted a study over Goan mining sector and found that,

Mining is one of those activities that really connect issues relating to people, development and the environment. But its contribution- negative and positive- to health and well-being is poorly understood. More important it is not well communicated and as a result, local communities, governments and mining companies are often uncertain about their respective roles and responsibilities in mining development, and they are unable to act or participate effectively in decisions related to mining activities [lxxxii].

The workable solution given by the study conducted by the Canadian team is the active and joint participation of mining companies, local and state governments and villagers of mining areas and according to them the above formula has the potential to achieve sustainable development with respect to Goan mining sector [lxxxiii]. Unfortunately the recent mining scam in Goa reveals the truth that the officials from Centre and state actively engaged in the illegal mining on a large scale without considering the aspect of sustainable development [lxxxiv]. The firms engaged in mining in Goa are politically strong enough to avoid local detests and regional governments are handicapped to take actions on it [lxxxv]. 'The Government of Goa arbitrarily sanctioned 135000 hectares of forest land for diversion and cut two lakh trees to illegal mining' [lxxxvi]. The government lost 6100 crores of rupees by illegal mining [lxxxvii]. Many firms engaged in

mining don't have an environmental clearance certificate but they are capable enough to conduct illegal mining only because of strong political support [lxxxviii]. Recently, the State Forest Minister Filipe Nery Rodrigues said that, the given illegal mining leases are arising out of false information to the ministry [lxxxix]. The Public Accounts Committee (PAC) constituted by the Goan Assembly found that Ministry of Environment and Forest violated major criteria for Environmental Clearance (EC) in almost 50% cases [xc]. The suitable measure to check the veracity of information is to give appropriate power to local authorities [xci]. Illegal mining will definitely leads to de-promotion of the concept of sustainable development and effective governance mechanism is needed to avoid the problems associated with mining including political as well as social.

Case Study of Mining Sector in Karnataka, India

The Lokayukta Report by Justice Santhosh Hegde reveals the extent of illegal mining in Karnataka [xcii]. The most unwanted fact with respect to Bellary mining scam is that the persons obliged to keep the reserves safe by them engaged in illegal mining and caused destruction to the natural environment [xciii]. The mining scam resulted in a loss of 16,085 crores of rupees to the treasury between 2006 and 2010 [xciv]. It committed severe violation of the well-known principle of 'public trust' [xcv]. Only because of the corruption by the state officials, the democratic processes lost the faith in itself and decisions are taken without consulting the aggrieved based on a greedy mechanism to extract profit on a selfish basis [xcvi]. The corporations involved in illegal mining are politically strong to suppress the detest. This illegal mining has an adverse impact on sustainable development [xcvii]. The Hegde report points out to the functioning of a 'Zero Risk System' which increased the gravity of illegal mining provides that,

A unique illegal method of transportation adopted in Bellary, Hospet, Sandur regions wherein the transportation of 'zero material' (illegally mined iron ore) has been guaranteed to reach safely to the destination. Some traders/companies/middlemen have taken this 'job' of transportation of 'zero material' to various destinations by charging 'commission' for rendering services taking 'risk'. In this phenomenon, the guarantor or risker takes the guarantee for safe delivery of the iron ore without any valid transmit permits or ... by using fake permits... Hence the term 'transportation on risk' and the person who takes guarantee 'the risker' is being frequently used in the sphere of illegal mining [xcviii].

As a solution to the problems associated with illegal mining in Karnataka, a proper mechanism addressing

transportation should be monitored without any delay to achieve sustainable development.

STRENGTHENING LOCAL GOVERNANCE FOR SUSTAINABLE DEVELOPMENT

The next question that requires consideration is which level of government is most efficient? Lipschutz (2005) argues that national governments are often reluctant or unwilling to impose regulations on global firms due to their fear that such regulations will discourage domestic investment and make their economies less competitive [xcix]. Development that meets the needs of all people is the *leit motif* of constitutional governance [c]. Even though the gravity of environmental problems is accepted universally, there is no consensus over its exact nature, future trajectory and hence, the extent and nature of intervention required [ci]. According to Lele (1991), this lack of consensus in the corridors of science led the prescriptions [cii] to change from "sustainable yield", that is, extracting from a resource stock at a rate below its natural growth rate, to ensuring low variation, to "sustainability as resilience", focusing on the ability of a system to recover from shocks of external fluctuating conditions like rainfall or drought [ciii]. However the sustainability issues in mining sector is not like that of rainfall or drought. The sustainability issues in mining sector will include exploitation of the resource in inefficient manner, ineffective disposal of mining wastes, lack of measures to prevent hazards to local people, soil pollution, water pollution, air pollution, global warming and so on [civ].

Governance at appropriate level is *sine qua non* to better achieve sustainable development. The clash between globalization of policies on environment and decentralization of responsibilities for policy development points to the significance attached to the appropriate governance mechanisms [cv]. United Nations Development Programme (UNDP), defines governance from the angle of local governments in connection with democratization, participation and sustainability as,

A framework of public management based on the rule of law, a fair and efficient system of justice, and broad popular involvement in the process of governing and being governed. This requires establishing mechanism to sustain the system, to empower and give them real ownership of the process [cvi].

According to Meadowcroft, a writer on sustainable development strategies, defined governance for sustainable development as,

Process of socio-political governance oriented towards the attainment of sustainable development and encompasses public debate, political decision-

making, policy formation and implementation, and complex interactions among public authorities, private business and civil society [cvii].

Management of the city by the control of local community creates trust in the activities of local government and enables the local government to make interactions with other levels of governments and thereby they are able to avoid fragmented decisions [cviii]. To achieve sustainable development local governments are so important in making policy implementations and its proximity to people and stakeholders [cix]. Local governments are the nearby authority to people and they can encompass a wide variety of approaches to resolve various issues concentrating on particular nature of the problem [cx]. The range of authorities vested with local governments generally helped the local government to make appropriate decisions to effect changes within the vicinity of municipality [cxi]. The examples will include regulations and council decisions by local governments [cxii]. The significance of these regulations and council decisions lies in the fact that they are specific to particular sector requiring attention including energy, health, water, waste disposal, industries, citizens and so on [cxiii]. Local governments can control the specific areas by influencing their activities through licenses, municipal service delivery, investments on infrastructure, monitoring of performance through supervision, imposition of fines and so on [cxiv]. The very success of the scheme include the development at the local level itself means realization of benefits at the grass root level [cxv]. Local governments are better able to impact necessary education to local people regarding the mandates to achieve sustainable development [cxvi]. Decentralisation promotes the economic stability of regions and many municipalities proved to be efficient in formulating strategies and mechanisms to realize sustainable development [cxvii].

Comparative Study of Sweden's Climate Strategy for Sustainable Development

The case study on Sweden's climate strategy explores the fact that local governments are effective governance machineries to achieve sustainable development. The author selected the particular example of Sweden's climate strategy because of the following reasons: (a) It is evident from the history that Sweden has a specific environmental policy which reflecting the environmental impacts of sustainable development in its administrative set up and also in its policies [cxviii]. (b) Local investment programmes and initiatives under Local Agenda 21 play an important role in Sweden's climate policy framework [cxix]. (c) Swedish Constitution of 1974 identifies the authority of municipalities in promotion

of 'common interests' of their municipal councils [cxx]. (d) The Climate Bill, 2002 well speaks for the importance of local governments regarding implementation of climate policy [cxxi].

Sweden's local governments proved to be efficient beyond doubt in climate policy implementation for sustainable development [cxxii]. Various issues from global level to local level call for an effective machinery for governing the problems [cxxiii]. A close look at the problems made it clear that majority of the issues born at the local level involving individual actions [cxxiv]. The locally born nature of the problem suggests local handling as an effective solution [cxxv]. In view of Messick, the transformation of international commitments into national policy and further into locally implemented measures provides, "actors with different, sometimes even contradictory, signals concerning appropriate action" [cxxvi]. According to Plattner, it is the obligation of the democratic governments to maintain reasonable claims for local and individual self-government and suggests,

Once democratic nation states are committed to implement globally decided climate strategy objectives and measures, strategies of domestication are called for and national governments must find ways of making lower governmental levels, as well as private firms and individuals are within their territories, take appropriate action to heed the nation's commitments [cxxvii].

The secret behind the reduced climate impact by Sweden's climate strategy lies in the multilevel governance pattern since in democratic nation's local governments experience constitutionally guaranteed protection of local self-governance and people are able to make use of their rights and privileges [cxxviii]. The environmental policy framework for Sweden aimed at long-term sustainability and the policy provides for sixteen environmental quality objectives [cxxix]. The Environmental Quality Objectives provides for the long-term sustainability in the state and purity of environment with the aim of, "providing a coherent framework for environmental programmes at national, regional and local level [cxxx]. The characteristic feature of the Swedish system for environmental quality is the Environmental Objectives Council [cxxxi]. The Council is responsible for monitoring the objectives and promoting the necessary measures like consultation and cooperation inevitable for the effective functioning of the system [cxxxii]. The Council was set up by the Government of Sweden and consists of fifteen Director Generals from various agencies of central government and five experts from non-governmental organizations working in the field of environmental protection, business sector and local

governments [cxxxiii]. In Sweden there are twenty-one county administrative boards having responsibility with respect to monitoring regional measures for ensuring environmental quality objectives [cxxxiv]. Again 290 municipalities in Sweden were given the responsibility to ensure the better performance of national policies [cxxxv].

Sweden's effort to reduce impact over the climate has strong basis on local level action and which is an area specific, multipurpose, hierarchical and widely accepted as stable [cxxxvi]. Mobilization of resources within the local limits by the local government leads to the maximization of developmental stability and utility [cxxxvii]. Another advantage with respect to local governance of environmental issues is cost effectiveness [cxxxviii]. Local climate implementing programmes are supported by the state and municipalities were given grants to finance the environmental protection programmes [cxxxix]. Sweden's local governments enjoy the power to implement legitimate and effective climate strategy and it is based on the cooperation and consensus among different levels of government and various interests [cxl]. The policy thereby characterized by the norm of limited command and control. The limited command and control principle was incorporated in the Climate Bill, 2003 by the Ministry of Environment as,

The climate work should be integrated with society's activities, and each and every one should assume his or her share of responsibility. This applies both to national and local authorities and to business enterprises, NGOs and individual persons. Broad participation by all agents will enhance the possibilities of reduced climate impact. Regulations and market-based instruments should be complimented by different agreements and the dialogue between government and business. The climate work conducted by NGOs should also be recognized and supported by national authorities [cxli].

Further the Goteborg Project 2050 stands as an effective example for sustainable development from the local level [cxlii]. The Goteborg Project is a research project aiming long-term sustainability in Sweden [cxliii]. The project Goteborg focused on municipal and regional planning in order to achieve a sustainable society [cxliv]. The project realized the importance of city as the key driver for sustainable development [cxlv]. The project engages with local government and people as an unavoidable factor to achieve sustainable development [cxlvi]. Swedish government views environmental, energy and climate challenges as "economic levers" and thereby provides the justification as to environmental policy integration with local initiatives [cxlvii]. The

importance given to municipal action leads to better decision-making in view of rationality as well as legitimacy [cxlviii]. Another example for the ability of municipalities to promote sustainable development is that of Finspang municipality [cxlix]. Municipality of Finspang successfully managed various issues in connection with energy sector and caused reduction in greenhouse gas emissions for sustainable development [cl]. In nutshell, the constitutional recognition of municipalities as well as the importance given to local governance for environmental protection makes the climate strategy of Sweden a grand success [cli].

Comparative Study of Mine Water Project, Heerlen, Netherlands

The Mine Water Project, Heerlen is became very crucial for the present study because the project proved the efficiency of municipalities in making local resources for the long-term sustainability and exists to be a good model to states for achieving sustainable development with respect to mining [cli]. In 2005 world's first power station on mine water was set up in Heerlen, Netherlands [cli]. The Mine Water Project involves municipalities, research institutes and housing associations [cliv]. There were many abandoned old mines in Heerlen and they raised many severe issues including loss of identity [clv]. Due to the shift in political agenda towards new goals such as sustainable development, economy, employment and education a new system for achieving sustainable development was developed by the local government energy management coordinator Elianne Demollin-Schneiders and she received enough support from the mayor's office, municipality of Heerlen [clvi]. Economically viable and environmentally sound local resources are structured in a creative way and found a new identity in its green energy by making a local solution for sustainable energy [clvii]. The project provides for the creation of heat and cold from mine water and generates hot water and heating in winter and cool water in summer [clviii]. By this project old abandoned mines were converted into a good source of energy and provide heating and cooling to 350 homes and businesses in the town. The system is also aiming industrial purposes [clix].

The new 'sustainable clean energy movement' proved that local initiatives can provide local solution for sustainable energy and the key ingredient which helps the project to win is the support of local authorities and public opinion [clx]. Local resources and expertise are used and decisions made at the local level leads to success [clxi]. Local implementation makes the project sustainable beyond the lifespan than EU programmes give them and according to Elianne Demollin-Schneiders, "Local governments

should give larger responsibility for becoming more involved” [clxii]. By Heerlen, local governments proved to be a key to long-term sustainability and provide a role model for other projects like Asturias, Spain [clxiii]. The long term sustainability offered by the Mine Water Project, Heerlen is highly significant with respect to the initiatives to achieve sustainable development since it ensures 55% carbon dioxide reduction, 60% increase in energy supply from renewable energy sources, provide good health conditions for communities living in areas with former mining activity, increased indoor air quality, making indoor climate and thermal comfort to user’s satisfaction and so on [clxiv]. Again the project is important to get properly functioning heating, ventilation and cooling (HVAC- systems) under all circumstances [clxv].

Comparative Study of Norway’s Sustainable Development Policy

A study on Norway’s sustainable development policy is very crucial to this paper, since Norway ranked first for Human Development Index worldwide [clxvi]. The importance given to local governments helps Norway to achieve the first position with respect to Human Development Index [clxvii]. Ms. Marianne Krey Jacobsen who is the Higher Executive Officer, Ministry of Foreign Affairs, Norway announced the mining policy of Norway in connection with Intergovernmental Preparatory Meeting for the 19th Session of the Commission held on March 2nd, 2011 [clxviii]. As per the Statement by Ms. Marianne Krey Jacobsen, the mining policy on Norway is exclusively based on three aspects namely “corporate social responsibility, land rights and transparency & governance” [clxix]. There is a White Paper in Norway requesting all the companies to perform corporate social responsibilities [clxx]. Norwegian government realized the importance of local responsibility regarding environmental matters to ensure qualitative performance for national and international objectives suggesting sustainable development including people’s good health and well-being [clxxi]. In 1985, Norwegian government initiated an ‘Eco Municipality Programme’ among various municipalities for sustainable development [clxxii]. In 1987, the Government of Norway announced a new programme for ‘Environmental Protection at the Local Level’ (EPLL) [clxxiii]. Later EPLL was further elaborated in to a big project giving various authorities to local governments including delegation of power from central government to local authorities in environmental matters, appointment of environmental protection officers, formulation of first and second generation programmes on environment and natural resources giving importance to local plans and so on [clxxiv]. Among environmental protection officers, there is a

network to ensure competence and experience and government granted NOK 700 Million to fund the programme [clxxv]. Again Norwegian government provided support to local governments through adequate funds for sustainable development measures [clxxvi]. In 2007, government has allotted NOK 10 Million to ensure sustainable development at the local level [clxxvii]. In 2009, again NOK 10 Million allotted and in 2010 a total of 930 Million NOK is spend over local government programmes for sustainable development [clxxviii]. Norwegian municipalities can also apply to the government fund for investment purposes since the Norwegian policy sounds local democracy and strong local finances for sustainable development [clxxix]. County governors allocate some funds and they are requested to give priority to sustainable development at the local level while distributing the fund [clxxx]. Norwegian government recognized the importance of local environment development programme through white paper number 58 of 1997 [clxxxi]. Later the white paper number 19 of 2003 transferred the responsibilities with respect to environmental sector to the municipalities [clxxxii]. This enabled the municipalities to perform larger power with respect to sustainability [clxxxiii]. The Fredrikstad Declaration of 1998 called the counties and municipalities to undertake the obligation to act together for sustainable development [clxxxiv].

The local authorities were given greater power under the Planning and Building Act to promote sustainable development and not to promote unnecessary development [clxxxv]. Norwegian Association of Local and Regional Authorities (KS) is a significant partner to achieve sustainable development [clxxxvi]. Ministry of Environment and KS together signed a Cooperation Agreement on Livable Communities for 2006 to 2010 intending environmental expertise at the municipal level [clxxxvii]. Under the programme, municipalities were given assistance in making a proactive mechanism for development of the environment at the community level [clxxxviii]. There is a network between various municipalities to ensure sustainable development under the programme [clxxxix]. It is a programme for green procurement and gave the freedom of making local partnerships as a local solution to the issues by the municipalities [cxc]. Municipalities are capable of addressing the environmental issues actively through various programmes like ‘Fronrunner Communities’ and ‘Eco Light house Programme’ [cxci]. Ministry of Local Government and Regional Development, Ministry of Petroleum and Energy, Ministry of Environment and National Association of Local and Regional Authorities together constituted a ‘Green Energy Community Project’ in May 2007 intending to provide help towards municipalities to enable

making of investments for reducing green- house gas emissions [cxcii]. Municipalities were given the status of partners to attain the goal of sustainable development along with the central government and many responsibilities [cxciii] regarding environmental matters were also transferred to local governments [cxciv]. Non- Governmental Organizations also have a good role in promoting sustainable development at the local level along with municipalities [cxcv]. For instance the Norwegian Ideas Bank, which is a private bank promotes local and global cooperation by providing examples as to 'how municipalities can stimulate innovation within local limits for sustainable development' [cxcvi]? Recently there is cooperation between trade unions of municipal employees and the Norwegian Society for Nature Conservation for the promotion of environmental policy [cxcvii]. Further the Norwegian Government facilitated 'small scale cooperative projects' between municipalities of Norway and their counterparts in developing states for efficient coordination by Norwegian Agency for Development and Cooperation (NORAD) and the Norwegian Association of Local and Regional Authorities [cxcviii]. The importance attached with local institutions in Norway for sustainable development is founded on the principle of 'Best Practice' [cxcix] suggesting local solutions to the locally borne issues and enabled Norway to achieve highest Human Development Index as well as sustainability in environmental matters [cc].

INDIA'S CURRENT APPROACH

The Constitution of India recognized the significance of quality environment. Article 48A reads, "The State shall endeavor to protect and improve the environment and to safeguard the forests and wildlife of the country" [cci]. Article 51A (g) reads, "It shall be the duty of every citizen to protect and improve the natural environment including forests, lakes, rivers and wildlife, and to have compassion for living creatures" [ccii]. Further the Supreme Court of India through a plethora of decisions categorically stated that right to environment is part of right to life under Article 21 [cciii]. The 73rd and 74th Amendments to the Constitution recognize the role of *panchayats* and municipalities in environmental protection, however limited to those aspects specified in XIth and XIIth Schedule [cciv]. The laws governing mining is regulated by the Mines and Minerals (Regulation and Development) Act, 1957 and the Act failed to recognize the importance of local governments in resolving the issues regarding mining [ccv]. The various problems discussed earlier and the mining scams points to the inability of central and state government in effectively addressing the issues [ccvi]. Generally Courts may not be able to address the issue because of lack of awareness and the foul

play by the governments and the corporations. Therefore the best way to achieve sustainable development with respect to mining is to enable the local governments to address the issues [ccvii]. In this scenario the Parliament of India amended the Mines Act by giving some authority to the *panchayats* and municipalities through the new Mines (Amendment) Bill, 2011 introduced in *Rajyasabha* on 9th March 2011. The new Bill obliged miners to share benefits with the local people affected by mining [ccviii]. The Government requested coal companies to share around 26% of benefits with local inhabitants [ccix]. Other miners say miners of bauxite and iron ore are requested to shell out profits in proportion to the royalty paid to the government of the state [ccx]. Under the new Bill, District Level Mineral Foundation will be given the authority to collect profits from the mining corporations and to distribute the profits for the welfare of the people [ccxi]. One main aim of the Bill is to attract investment and technology within the mining sector [ccxii]. The Bill envisages scientific and sustainable mining, punishment for illegal mining, better rules and creation of special courts for addressing illegal mining issues without any delay at the state level [ccxiii]. The effectiveness is still in doubt because of lack of strong provisions [ccxiv].

CONCLUSION

We are living in an age of science and development. We are given the opportunity to utilize our resources for the common benefit of humanity [ccxv]. No doubt that scientific innovation will help humanity to achieve greater heights in their lives [ccxvi]. At the same time it is the obligation of mankind to utilize available resources with adequate consideration to future needs [ccxvii]. Concept of sustainable development speaks for this obligation. There is a catena of international documents requesting sustainable practices for the development of all [ccxviii]. To internalize the international obligation effectively and to practice sustainable development this paper acknowledges the propaganda of "think globally, act locally" [ccxix]. For this propaganda what we actually required is the leadership at the national level and initiatives at the local level [ccxx]. The UK Commission beautifully enunciated this concept for Sustainable Development as, "National policy set the direction but its practical action at the local level that makes sustainable development real" [ccxxi]. The involvement of 'local and federal' means that the participation of the entire population including women, children, the poor and the elderly people. Overall participation of the population is essential for good decision taking [ccxxii]. The beauty of overall participation makes the local governance an important point where 'the rubber meets the road' [ccxxiii].

The present paper studied the concept of sustainable development and the role played by the corporations to achieve sustainable development with special reference to mining. To realize sustainable development it is necessary to build a balance between organizational and societal well being for long-term sustainability [ccxxiv]. This paper suggests local governments as important mediators between corporations and societal needs to achieve sustainable development. The reason is that of the importance attached with city as a political institution [ccxxv]. Cities arise out of the challenges faced by humanity since the inception of sociological pattern of life by mankind [ccxxvi]. Still cities are deemed to be the source of efficient solutions since they are the depositories of ideas and creativity [ccxxvii]. The first part of the paper defined sustainable development with respect to corporate social responsibility and drew a link between sustainable development and corporate social responsibility in the context of mining. The second part analyzed the problems associated with mining across the world and specifically studied mining sectors in South Africa, Canada, Bali, Goa and Karnataka and suggests that local governance can better help to achieve sustainable development. The third part provides the reasons why local governments are important than Federal government and gave evidence as to the suggestion through the specific examples of Swedish Climate Strategy, Mine Water Project of Heerlen, Netherlands and the sustainable developmental policy of Norway. The fourth part analyzed India's current approach and in the last part this paper concludes that municipalities and *panchayats* should be given greater power in the regulation of mining industries to enable realization sustainable development.

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cxci *See* responsibilities associated with waste management, energy, waste water treatment, land use- planning and so on.

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cxci Principle of 'Best Practice' pertains 'it all depends'.

cc Executive

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ccxviii *See generally* Stockholm Declaration, 1972; Principle 1, Rio Declaration, 1992.

ccxix *See* Sheppard *supra* note 125.

ccxx Concept of 'glocalization' *see* Zanoni, P. & Janssens, M. (2009). Sustainable DiverCities. In Janssens, M., Pinelli, D., Reyman, D. C., & Wallmann (Eds.), *Sustainable Cities: Diversity, Economic Growth & Social Cohesion* (pp. 6). Cheltenham, England: Edward Elgar.

ccxxi Strange, T. & Bayley, A. (2010). *Sustainable Development Linking Economy, Society, Environment*. OECD Publishing.

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ccxxiii *See supra* note 116.

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ccxxv *See* West *supra* note 222.

ccxxvi *Id.*

ccxxvii *Id.*

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