

Geoscience Evidence Gaps and Integrated Environmental Management

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Abstract

The long chase for development has brought the human to a critical point. The earth which had given everything for all living beings is now facing a problem. As a result, the new domain is coming into prominence so that the issue can be resolved. One such area which has now become popular is the integrated environmental management. This is becoming helpful as it attempts to match a balance between the need to grow / development and at the same time the environment too. Here in the present paper, we have tried to understand the concept of integrated environmental management. Geoscience as we all know deals with the study of everything thing relating to earth and hence becomes essential to make a contribution in addressing knowledge gaps.

Keywords: Geoscience, integrated environmental management, earth, principles.

1. Introduction

Earth is the main divine body known to mankind where life is known to exist and that too with such an immense assorted variety. In any case, it is presently turning out to be increasingly more inhabitable for a large portion of the species as demonstrated by soak decrease in an assorted variety of flora and fauna. The fundamental explanations for the exacerbating conditions for life on earth are the anthropogenic exercises. The human impedance has brought about increment in concentration of ozone harming substances (GHGs), environmental change, degradation of land, contamination of air water and soil, exhaustion of non-sustainable assets, loss of biodiversity, aggregation of unsafe

unmanageable synthetic concoctions and a few related issues. The arrangement lies in understanding everything that identifies with the earth.

If one has to understand the oceans, rivers, glaciers, soil, along with the metallic core and many similar things that are available on our earth it is the Geoscience that deals with these aspects. So, broadly Geoscience deals with how any of the things which have life get interacted with Earth. It is also an investigation of what happened in the past years, what is happening in the present years and what is the expectation for the future with regard to earth. It is, therefore, can be stated that it is not just the earth but many other planets along with things like asteroids as well as solar systems can be studied in the same ambit of the subject. It had been found in recent years that a lot of degradation is taking place no matter what we talk of. So we need a system which understands the importance of development and in the same environment that we live in.

Integrated environmental management (IEM) is one such tool that deals with both the environmental aspect and the development aspect at the same time. It finds a proper balance between these two. Similar to sustainable development, Integrated Environmental Management or IEM is relatively a new concept and there is still difficult to say the best definition of it as it still in the phase of evolution. This makes understanding the concept a challenge but by no means weakens its importance as a potential approach for managing the environment.

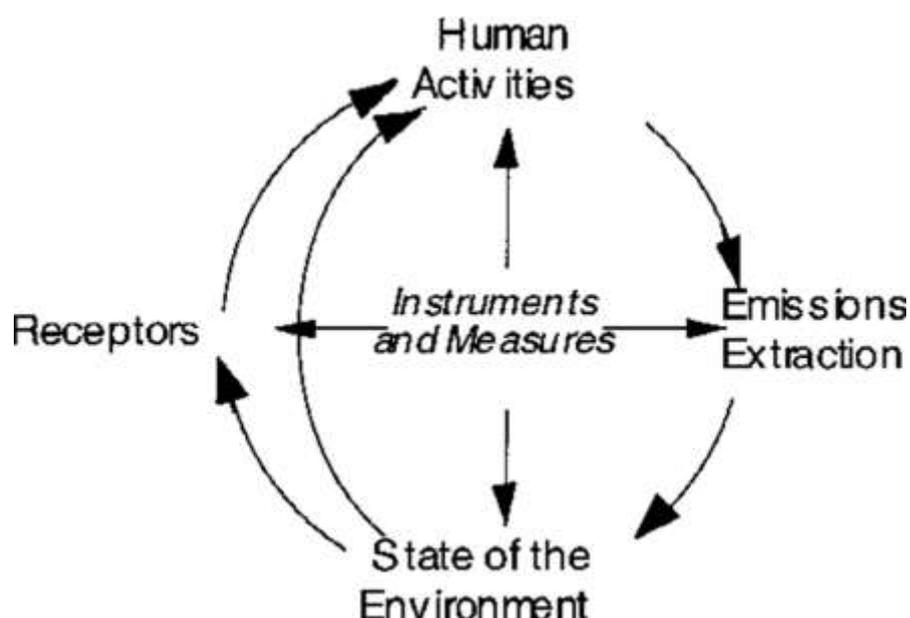


Figure 1. Integrated Environmental Management (Antunes and Santos, 1999)

2. Integrated Environmental Management

IEM is a methodology for dealing with the environment which attempts to adopt a comprehensive and comprehensive strategy to help oversee issues identifying with the environment. This methodology has been proposed the same number of environmental issues are known as fiendish issues, in which no simple arrangement exists. Complex issues likewise include various individuals, from various different backgrounds, just as a scope of various orders and objectives. There are frequently objectives that seem to repudiate one another and this makes finding reasonable answers for environmental issues seem unthinkable, or at any rate, near inconceivable. An Integrated Environmental Management Approach has been created as opposed to increasingly conventional environmental administration approaches that have been studied as "... tight, compartmentalized, awkward, reactionary..." (Cairns., and Crawford, 1991) and unequipped for fittingly managing complex environmental issues.

There is a range of Integrated Environmental Management definitions which can be considered to assist one in understanding what exactly an IEM approach is.

Buhr (1995) states that it is "an approach to the management of the environment that takes into account its complex, multi-faceted, and interconnected nature". Cairns & Crawford (1991) state that it is "Coordinated control, direction or influence of all human activities in a defined environmental system to achieve and balance the broadest possible range of short-& long-term objectives". Whereas Frieder (1997). "An approach to environmental management which requires recognition of the linkages between different parts of the environment, and adopts a range of tools to identify and manage environmental effects across the different parts, and to ensure coordination across institutional barriers such as agency barriers".

3. Advantages of Integrated Environmental Management (IEM)

Possible benefits of an IEM system may include some or all of the following:

- 1) Upgraded intelligibility and cost-adequacy of various approach measures
- 2) Better association and correspondence between the residents and the pioneers of the city, making systems,
- 3) Harmonization of revealing duties
- 4) Accomplish consistency with the current environmental enactment proficiently and cost viably,

- 5) Cost investment funds through diminished assets and utilities, improving financial seriousness through reducing expenses
- 6) Advanced environmental familiarity with residents, nearby power staff and partners,
- 7) Better notoriety and "intensity" of the city (neighborhood authority)

4. Principles of IEM

According to South Africa's Department of Environmental Affairs and Tourism (2004), these principles have been synthesized from a wide range of various sources.

Principles <i>Accountability and responsibility</i>	Principles <i>Adaptive</i>	Principles <i>Alternative options</i>	Principles <i>Community empowerment</i>
<i>Continual improvement</i>	<i>Dispute Resolution</i>	<i>Environmental Justice</i>	<i>Equity</i>
<i>Global Responsibilities</i>	<i>Holistic decision-making</i>	<i>Informed decision-making</i>	<i>Institutional co-ordination</i>
<i>Integrated approach</i>	<i>Polluter Pays</i>	<i>Precautionary approach</i>	<i>Rigour</i>
<i>Stakeholder engagement</i>	<i>Sustainability</i>	<i>Transparency</i>	

Figure 2.Principle of IEM

5. Geoscience evidence gaps

One of the researches dealt in the same field has come up with certain findings which they mentioned in their researches. Though the gaps meant to be specific to (UKNEA, 2011), one can generalize what has been identified. These include

- 1) Coastal Margins: more proof is required on their degree and patterns, especially in Scotland. The UKNEA calls for UK-wide vital information get-together to recognize the change in seaside dregs and natural surroundings to advise adjustment.
- 2) Freshwaters: there is an absence of information on the significance of the network between water bodies and the job of little water bodies/ wetlands. More proof is required on the linkages between physical, biogeochemical and natural procedures that manage the administrations of freshwater frameworks. This incorporates the effects of modifications to catchments, the character of basic biological system assets that support key administrations, and the elements influencing obstruction, versatility and basic limits to help administration conveyance. Models are required which gauge how freshwater biological systems might be affected by future environmental fluctuation and change.

- 3) Supporting administrations: the UKNEA requires a superior comprehension of the commitment of natural, synthetic and physical elements to supporting administrations and more information on administration collaborations. It proceeds to recommend that a superior comprehension of the systems that support supporting administrations is essential just as how they will be influenced by environmental change. The UKNEA states that examination is required as a need for maintainable administration for supporting administrations and the directing and provisioning administrations that they support.
- 4) Regulating administrations: peril guideline requires more proof on coast and upland condition, timescales for recuperation from corruption and the effect of extraordinary occasions. More proof is required on the recuperation of soils under an evolving atmosphere.
- 5) Cultural administrations: the UKNEA takes note of that so as to improve our understanding we have to address holes in information assortment and complete progressively predictable observing of progress in various environmental areas.

6. Conclusion

Geodiversity is a necessary piece of capital that has provided to us by nature. It both gives and supports fundamental biological system merchandise and ventures, and permits basic bits of knowledge into dynamic procedures and long haul patterns. Fruitful usage of the biological system approach must coordinate the best geoscience proof accessible. Without a comprehension of how our Earth framework capacities and changes after some time, it will be progressively difficult to completely esteem characteristic capital and the biological system merchandise and enterprises it gives, not to mention oversee and improve them for people in the future. Among the increases for geoscience and geo-conservation of drawing in with the biological system approach will be new open doors for Earth framework science research and its applications, much better acknowledgment of the estimation of geodiversity as a major aspect of regular capital prompting more extensive help for its protection, and more noteworthy acknowledgment of geodiversity in environmental and other strategy.

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