Sustainable Environmental Development and Disaster Risk Reduction in the Context of Pakistan

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Abstract:

Introduction: Disasters are the catastrophic events which affects human lives, infrastructure and economy at significant scale. Pakistan is vulnerable to disasters due to its climate change and geography. Climate change causes much more complications and disasters. So, there should be focus on climate change adaptations to reduce disaster risks. If country spends 1 dollar on DRR it saves 5 to 7 dollars to be spent on same population if disaster strike. So, development for disaster risk reduction is much more important. Making the communities resilient and reduces vulnerability environmental sustainability is very important. After the Millennium Development Goals recommendations, Pakistan is also trying to gain environmental sustainability but more in papers instead of practically. So, the need is to make sure practical implementations of these plans and efforts. The objective of this study was to overview the sustainable environmental development and disaster risk reduction in the context of Pakistan.

Methodology: This is the descriptive cross-sectional review study.

Conclusion: As Pakistan is vulnerable for natural disasters due to its geography and climate change like floods, landslides, droughts and Tsunamis. These impact communities according to vulnerability level of the community. Impacts of these disasters on communities can be reduced by reducing their vulnerability and increasing their resilience level.

Key Words: Disaster, Climate Change, Sustainable Environment, Millennium Development Goals

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Introduction:

Very important issue which attracts the global attention is climate change. It is revolving process which brings changing in weather, its trend and attitude. It changes round the clock during whole year which give rise to coldness, hotness, wind, breeze and raining etc. These changes occur slowly and with systematic pattern, but some factors affect these systematic changes and disturb their rhythmic pattern. This study identified those factors and tried to find mitigation solution. If we can mitigate the environmental changes we can reduce so many disasters those are caused by the climate change e.g. floods, droughts and global warming etc.

Climate change brings so many disasters which impacts the community badly. Mostly human activities are responsible for climate change. These activities are due to rapidly growing populations. Some factors for climate change are deforestation, depletion of ozone layer by CFCs, global warming by increase in Carbon dioxide or other factors, industrialization, unplanned urbanization.

Disasters impact communities badly and having destructive outcome depending upon the vulnerability level of communities. Vulnerability level and low coping capacities exacerbates the impact level. Sometimes disaster impacts exceed from the capacity of the state or country which affect the country economically especially developing

countries. We can reduce environmental hazards risks by reducing their vulnerability and make the environment sustainable by taking these steps seriously with real implementation: Disaster risk reduction, Climate change adaptation, Environmental management, Poverty reduction.

Environmental and social change and lack of adaptive capacity expose the community to harmful conditions; this is the state of vulnerability. Antecedent traditions include theories of vulnerability as entitlement failures and theories of hazard (1). By taking mitigations strategies sustainable environment can attain which reduces disaster risks. Setting objectives, following implementations of Millennium Development Goals with proper integration, successful response and environmental sustainability may be obtained reducing losses to weather related disasters and community becomes resilience to specific disasters.

Raising the community resilience and reduction of vulnerability level is the focus of disaster risk reduction (DRR) and climate change adaptation (CCA). So it is very important to integrate disaster risk reduction and climate change adaptations for gaining the satisfactory resilience level (2). In the decade of 1990s, thoughts were focused on the linkage between disaster risk reduction and sustainable development for better economy as well. There are so many of organizations on practical application of Millennium development goals. 7th MDG focus on environmental sustainability which compel the practitioners to take serious environmental problems and solve these (3).

It is observed that disaster risk reduction (DRR) has reduced the negative impacts of natural hazards to the communities in different perspectives. Normally natural hazards impact on social, environmental and economic factors of the affected communities. A cost benefits analysis conducted by US Federal Emergency Management Agency (FEMA) to find the advantage ratio from disaster risk reduction. For this, FEMA took 4000 mitigation programs and found benefit cost ratio (BCR) of 4 in the studied cases. (4)

The UN Millennium Summit gathered in New York in September 2000. A total of 189 world leaders met and adopted the UN Millennium Declaration (A/RES/55/2). Under “Protecting our common environment” the declaration "adopt in all our environmental action a new ethic of conservation and stewardship and, as first steps, resolves...to intensify cooperation to reduce the number and effects of natural and manmade disasters”.

This review study is focusing 7th MDG which emphasizes the environmental sustainability. According to FEMA disaster risk reduction in the form of sustainable development reduces post disaster expenses. So environmental sustainability is much more important to reduce disaster risks. Due to environmental degradation, following common problems may be faced commonly:

- Floods
- Droughts
- Landslides due to deforestation
- Economic crises due to agricultural damage
- Epidemic spreads due to pollution
- Eye and chest infections due to smoke and dust in big cities

For making the communities more resilience for disaster in the perspective of climate change, there is need to take serious steps to reduce climate change and make environment sustainable. Any framework

work effectively when community as well as policy making authorities work together. Following steps may be taken to attain sustainable development:

- Awareness
- Promote agricultural education
- Empower farmers to increase agriculture
- Provide basic needs and facilities to rural areas to downsize the migration to cities and development of agriculture
- Introduce new methods of agriculture to increase the agricultural products
- Promote plantation on roads and canal sides to keep the environment cold and reduce carbon dioxide produced by large number of motor vehicles in metropolitan cities
- Reduces deforestation
- Reduces greenhouse gases to reduce global warming
- Limit industrialization
- Planned urbanization
- Monitor vehicles status to reduce smoke and noise pollution
- Implementation of rules and regulation for environmental solutions.

Problem statement:

This study was to overview the sustainable environmental development and disaster risk reduction in the context of Pakistan.

Methodology:

This is the descriptive cross-sectional review study. First, a goal was set to study the sustainable environmental development and disaster risk reduction in the context of Pakistan. Then the annual disaster report of National Disaster Management Authority Pakistan and Pakistan Red Crescent Society were studied. After reviewing these studies, some recommendations and suggestions are made.

Discussion:

As discussed earlier that climate change brings too many problems leading to disasters so mandatory preventive planning is obligatory. After the declaration of Millennium Development Goals, all participant countries are trying to make policies for environmental solutions.

Pakistan already took steps and built a structure with the name of Pakistan Environmental Protection Council in 1984 under the section three of the Pakistan Environmental Protection Ordinance (PEPO) in 1983; the responsibility of its chairmanship was given to Prime Minister of Pakistan. Council demands the Prime Minister with an ordinance to provide a head of the council in 1994, according to these recommendations an act was generated in 1997 with the name of Pakistan Environmental Protection Act (PEPA). In this act the roles and responsibilities of different organizations and Ministries were explained, and comprehensive theoretical structure developed.

In Pakistan theoretical frameworks and defined structures are available now but implementation is not satisfactory. These authorities underestimated the events of disaster and almost always ignored by understanding as an act of God.

There are some important challenges for effective implementations as follows:

- Lack of awareness
- Lack of resources
- Poverty and dependence on forests for livelihood
- Limited information and unavoidable uncertainties

- Boundary setting complexities
- Primitive methodologies
- Difficulties in defining the proper role of public participants and ensuring effective involvement
- Coordination and integration of strategic implementations within organizations and departments
- Institutional resistance
- Conflict between integrated implementation and bureaucratic fragmentation
- Jurisdictional overlap
- Limitations of the standard rational planning and policy making model
- Resistance to integration of strategic implementation in core decision making

Conclusion:

As Pakistan is vulnerable for natural disasters like flood, landslides, droughts and Tsunamis due to its geography and climate changes. These impacts communities according to vulnerability level of the community. Impacts of the disasters on communities can be reduced by reducing their vulnerability and increasing their resilience level. For making population more resilient, sustainable development is needed. In case of Pakistan, climate changes are affecting the country badly so focus on environmental sustainability should be increased. As discussed above that risk reduction is more important and it saves expenses of post disaster response. Pakistan has theoretical and structural framework for environmental solutions but need to its complete practical implementation.

Recommendations:

By critical study of previous researches and reports of NDMA and PRCS, following recommendations are made on present topic:

- Pakistan Environmental Protection Council should be functional properly.
- Pakistan Environmental Protection Act should be revised, and the environmental sustainability should be encouraged.
- Create awareness of importance of environment sustainability and disaster risk reduction among common mass
- Promote agricultural education
- Facilitate farmers by financial and technical aid to increase agriculture
- Provide basic needs and facilities to rural areas to minimise migration toward cities
- Introduce new methods of agriculture to increase agricultural production
- Promote plantation in the road and canal sides to keep the environment cold and to reduce carbon dioxide produced by large number of motor vehicles in big cities
- Reduce deforestation
- Reduce greenhouse gases to reduce global warming
- Limit industrialization
- Planned urbanization
- Monitor vehicle status to reduce smoke and noise pollution
- Implementation of rules and regulation for environmental solutions

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