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Venue: Dr. R. Dwarakinath Hall

Seminar -I

Community-Based Disaster Risk Management for Climate-Resilient Communities

Synopsis

India's geo-climatic conditions and socio-economic factors make it one of the most vulnerable countries to natural disasters in the world. Disasters are increasingly recognized as a threat to sustainable development and poverty reduction goals. It is now an established fact that communities are the first responders and bear the maximum brunt of any disaster event. Community-Based Disaster Risk Management (CBDRM) underscores the active participation of local communities in identifying, assessing, and mitigating disaster risks.

The importance of disaster risk reduction and management in agricultural extension cannot be overstated, particularly in a country like India, and any disruption due to disasters can have profound socio-economic implications. In this backdrop, Disaster Management practice in India has evolved from one that was largely top-down, relief-oriented to a risk management-based approach that has different sectoral roles to be played by different stakeholders. The potential of local people in reducing disaster risk and in serving as immediate first responders has been demonstrated over the years. This collaborative framework encourages partnerships between local communities, government agencies, and other stakeholders, co-creating disaster management plans that are both community-driven and sensitive to local contexts.

With this brief background, the current seminar has been conceptualized with the following objectives:

- 1) To understand the background and context of climate-related disasters
- 2) To understand the role of community-led approaches in reducing disaster risks
- 3) To explore the practices and tools of CBDRM
- 4) To review insights from a relevant case study that illustrates the application of CBDRM strategies in strengthening disaster risk preparedness among communities

CBDRM

CBDRM is defined as a process where at-risk communities are actively engaged in reducing their vulnerabilities and enhancing their capacities. The essential features of this approach include the centrality of the community's role, the recognition that local people are capable of initiating their own development, and the understanding that disaster risk reduction is intrinsically linked to the broader development process. The community is viewed not merely as a beneficiary but as the key resource and actor in the management process.

Practices and tools in CBDRM

The framework relies on Participatory Disaster Risk Assessment (PDRA) to actively engage communities, utilizing practical tools such as Timelines for historical tracking, Hazard Maps for spatial risk identification, and Seasonal Calendars for monitoring cyclic events. To analyze vulnerabilities and prioritize actions, practitioners employ Matrix Ranking, Proportional Piling, and Transect Walks, alongside Venn Diagrams for institutional mapping.

Potential risks and challenges

The major challenges in Community-Based Disaster Risk Management (CBDRM) stem from weak institutional frameworks and social barriers. Inadequate funding, corruption, and poor integration with local governance limit the availability of resources and trained personnel. At the community level, low awareness and education results in poor participation and overdependence on external agencies. Additionally, gender and social exclusion leave the most vulnerable groups inadequately prepared and supported.

Research Studies

Vaibhav Tripathi and Dr. Ashok Kumar (2024) evaluated the effectiveness of CBDRR initiatives in flood-prone regions of northern India using geospatial tools and field surveys. Remote sensing analysis identified nearly 6,500 sq. km of flooded area. Importantly, areas with active CBDRR interventions showed faster recovery, better preparedness, and a statistically significant negative correlation ($p < 0.05$) between CBDRR intensity and flood severity, highlighting the tangible value of community-led risk reduction.

Paschalia *et al.* (2022) assessed the impact of a CBDRR program on community knowledge and skills related to disaster mitigation using a quasi-experimental design. Post-intervention analysis showed a highly significant improvement ($p = 0.000$) in both disaster-related knowledge and practical skills among the intervention group compared to the control group. These results clearly demonstrate the effectiveness of CBDRR training programmes in strengthening local capacities and preparedness at the community level.

Conclusion

The CBDRM process leads to progressive improvements in public safety and contributes to equitable and sustainable community development. By addressing the root causes of vulnerability such as poverty and marginalization and leveraging local capacities, CBDRM empowers communities to meet the needs of the present without compromising the future, ultimately creating a robust foundation for climate resilience.

References

- TRIPATHI, V. AND KUMAR, A., 2024, Assessing the effectiveness of community-based disaster risk reduction (CBDRR) initiatives in flood-prone regions of northern India using geospatial tools. *Int. J. Trends Emerg. Res. Dev.*, **2** (6): 272-276.
- PASCHALIA, Y. P. M., DOONDORI, A. K., SEKUNDA, M. S. AND BUDIANA, I., 2022, Revitalization of disaster mitigation management and community empowerment through community-based disaster risk reduction (CBDRR). *JPPIPA (Jur. Penelit. Pendidik. IPA)*, **8** (5): 2563-2574.