



EXECUTIVE POST-GRADUATE DIPLOMA IN DISASTER & CLIMATE RISK ASSESSMENT FOR SUSTAINABILITY EPGD-DCRAS

JAMSETJI TATA SCHOOL OF DISASTER STUDIES
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Executive Post-Graduate Diploma in Disaster and Climate Risk Assessments for Sustainability (EPGD-DCRAS)

About the Programme

As global conversations have shifted from reactive ways of “managing disasters” & climate change to more proactive and pre-emptive aspects of “disaster risk reduction,” it is the need of the hour to put the spotlight on disaster & climate risks. The proposed programme will **build knowledge, skills, competencies and capacities among the participants to solve real risk problems and issues related to risk assessment**, develop the ability for **critical reflection on causative factors that generate risks**, how they are perceived differently by diverse constituencies and how they are communicated or under-played, **learn to use data analytics and technological tools used in risk analysis, to understand, describe and evaluate risk**

A robust and well-rounded risk assessment is required to serve as a fulcrum for public policy discussions to enable global disaster and climate preparedness.



The programme is envisaged as a global programme that will hone new talent from around the world and create a brand of professionals committed to disaster risk reduction and minimising impact of climate risks.

INTRODUCTION & RATIONALE

Over the years, there has been a global increase in extreme climate events leading to large scale death, devastation and immense socio-economic losses. Anthropogenic activity has exacerbated the occurrence of newer forms of hazards. In such a context, it is the responsibility of the government to ensure safety of all its citizens, through good regulatory and governance frameworks that minimize risks. More than ever before, a robust and well-rounded risk assessment (RA) is required to serve as a fulcrum for decision making in public policy to enable global disaster preparedness. Such risk diagnosis must take into account all dimensions of disaster risk such as, hazard characteristics, hazard identification, exposure of persons and assets to such hazards, differential vulnerabilities and coping capacities of communities with a special focus on the most marginalized groups.

As nations around the world pursue modernist ideas of development driven by large-scale infrastructural creation, newer risks are produced while existing ones maybe amplified. Anthropogenic activity brings about the production of fresh hazards that can lead to disaster events which in turn can erode developmental gains in a matter of minutes. Further, as historical and emerging evidences suggest, there is a strong need to be grounded in the values of sustainability, disaster prevention, risk reduction, mitigation and vulnerability reduction in the contexts of climate change and increases in extreme weather events. An early pre-disaster intervention in the form of robust risk assessments will enable preparedness and set the world on the road to resilience building.

The risks communities face, the reasons for their vulnerability and state response to both risks and vulnerability require a thorough investigation for which knowledge and competencies in undertaking risk assessments is the need of the hour. RAs help to identify specific hazards and their potential impacts on a site/ built environment/ structure/ or on people who work/reside there. RAs thus helps identify people who may be at risk, plan for their safety in order to protect them (as well as the structure). They help decision makers think about the potential harm that may need mitigation or preventive measures. Risk assessments ensure compliance with the law, periodic and timely review of existing controls and enables a process of making improvements in systems that enable risk reduction. Risk consciousness factors in the idea that extreme weather events and disasters will continue to rise with climate change and that events that were few or highly unusual are likely to multiply.

Risk as a conceptual register has transcended disciplinary boundaries to emerge as a complex and multifaceted variable of staggering importance that requires holistic inquiry beyond the limits of any single disciplinary knowledge system.

Sustainability in the contexts of Disaster and Climate Risks

The proposed programme is cognizant of the overlaps and intersections between disasters and climate risk interventions and sustainability. Canonical global policies such as the Sustainable Development Goals (SDGs) have become driving forces that inform national policies on a broad gamut of issues, from poverty and hunger to climate action, gender equality and resilient infrastructure. The SDGs imagines a future that is just fifteen years away, a future that sees the world alleviate global poverty, hunger and the ill-effects of climate change.

However, concerns of justice, equity and risks underscore the need to identify disparities in risks experienced by specific groups/communities and nations and sources of those disparities.

The distribution of risks is often uneven and decisions in one domain severely impact another domain, heightening the exposure to risks. It is imperative to generate greater awareness about these processes and cascading impacts and work on approaches to address and/or mitigate disparities in risk distribution and foster greater sensitivity and collaboration in an interconnected world. Policy and practice must advance the use of decision analysis and risk tools.

In the wake of climate change that affects several dimensions of human existence including food and water security, owing primarily through its impact on ecosystems, it becomes necessary to identify and treat climate risks. Risk assessments must enable progress towards sustainable interventions that reimagines growth and development as one that is cognizant of environmental impacts and its interconnectedness with human societies.

The Sendai Framework for Disaster Risk Reduction (SFDRR) emphasizes the need for improved disaster risk across dimensions for exposure, vulnerability and hazard. It calls for the strengthening of disaster risk governance especially the fortification of national platforms. It highlights the need for international global cooperation with an emphasis on risk-informed donor policies and programmes (SFDRR 2015). The core philosophy of disaster risk reduction aims at managing the causal factors of disasters, reducing exposure to hazards, lessening the vulnerability of people, and the sustainable management of the environment (UNISDR 2009) It is also necessary to investigate institutional and governance perspective of risks

Risk informed approaches that increase capacities in risk diagnosis and enable risk identification and risk treatment will help reduce human suffering as well as other dimensions of losses. The UNDRR refers to such risk-informed perspectives as an “innovation curve” that takes into the diversity of uncertainty and the diversities of populations living with differential risks. Such regenerative approaches that is aligned to the ethos or prevention and preparedness will enable better disaster response.

This programme will thus emphasize the need for disaster and climate risk assessments and such assessments will, in turn, enable a heightened sense of risk awareness that anchors the sustainability question.

Such risk-aware interventions create robust systems of risk management which in turn informs resilience building and strengthens adaptation measures. A deeper understanding of risk can thus address several of our pressing issues, from safeguarding ecosystems to reducing the onslaught and adverse impacts of climate change on the most vulnerable and marginalized of communities.

A wholistic approach to managing disaster and climate risks that takes into account hazards, exposures, aggravating factors, potential damages to life and property is thus needed.

In this regard, it is imperative to create a brand of disaster professionals committed to the cause of disaster and climate risk reduction. Given this context, the Jamsetji Tata School of Disaster Studies (JTSDS) which has a long history of disaster intervention, proposes to launch an Executive Post Graduate Diploma in Disaster and Climate Risk Assessment for Sustainability (EPGD-DCRAS). Across all the course content, sustainability, disaster risk reduction in both urban and rural contexts, vulnerability reduction of communities and “living with risk” are envisioned as cross-cutting themes. The aim is to produce disaster managers with strong abilities in disaster and climate risk assessments. The thrust areas of the course are grounded in values of prevention and mitigation. Therefore, risk assessments from a **pre-disaster point of view** so as to enable preparedness and bring about disaster prevention form the guiding principles of this course.

To this effect, a rigorous certification that builds skills, competencies and knowledge in the following areas is proposed:

- site-specific disaster aware risk assessments pertaining to large infrastructural projects such as dams, roadways, malls, power plants etc.
- Spatial and thematic analysis of risk information
- Uncertainty analysis and use of disaster and climate risk information in decision making
- Dynamic risk assessments that will bring about the production of risk information which will empower communities and businesses to invest in effective disaster and climate risk reduction policies and strategies.
- Methodologies to enable a vigorous risk assessment in various contexts duly supported by preventive and mitigative measures that contribute positively to reduction in disaster and climate risk
- Risk assessments that will aim to protect communities from unnatural loss of life, livelihoods, health deprivations and will aid the protection of the environment.
- Risk governance with a focus on development planning, practice and outcomes that critically shape DRR initiatives
- Generating risk information for better decision-making through close collaboration between authorities and technical experts for better risk understanding
- Localizing global perspective on climate change, climate change adaptation, global best practices on disaster and climate risk assessments and management
- Disaster and climate risk reduction priority setting and cost-benefit analysis

Gaps

Various comprehensive assessments such as the Environment Impact Assessment (EIA) & Social Impact Assessment (SIA) are deemed mandatory in large infrastructural projects and include components of risk assessments. However, the thrust area of the EIA is to identify and evaluate environmental consequences of development activities, while the SIA includes the processes of analyzing, monitoring and managing the intended and unintended social consequences of planned projects. As global conversations have shifted from reactive ways of “managing” disasters and risks posed by them to more proactive and pre-emptive aspects of “disaster risk reduction,” it is only fitting to conceive of an executive level programme that will put the spotlight on disaster risks, and this requires adept assessment in various contexts. A strategically designed course that strikes a balance between the social sciences and technological interventions is required.

OBJECTIVES OF THE EPGRA

1. Building knowledge, skills, competencies and capacities among the participants to solve real risk problems and issues related to risk assessment
2. Developing the ability for critical reflection on causative factors that generate risks, how they are perceived differently by diverse constituencies and how they are communicated or under-played
3. Learning to use tools used in risk analysis, to understand, describe and evaluate risk.
4. Enabling a cross-disciplinary knowledge transfer of risk knowledge
5. Encouraging creativity and innovation in the field among participants by solving real life problems during the programme

The programme will hone new talent and create a brand of professionals committed to disaster risk reduction and minimizing impact of climate risks.

Key Features of the Programme

- 1 year part time, weekend professional programme
- **Modality: Hybrid (Online + Offline: recorded lectures)**
- blend of theory, research and praxis by JTSDS faculty duly supported by sector practitioners from reputed organizations
- Praxis oriented Field Practicum which is an immersive exposure to field realities Field work plays a pivotal role in this regard and provides the experiential basis for the student's academic learnings.
- Research Oriented Term Paper to engage with a variety of scholarly sources, and to make an original contribution to the debate
- Utilizing weekends to gain knowledge and learn about the climate and disaster risk assessments for sustainability

SEMESTER-WISE BREAK UP OF COURSE WORK

SEMESTER 1		
SN	Course Title	Credits
1	Understanding Risk	2
2	Introduction to Risk Assessment	2
3	Risk and Vulnerabilities	2

4	Introduction to Data Analytics for Risk Assessment	4
5	Urban Risk Assessment	2
6	Technologies in Disaster Risk Assessment	2
7	Field Practicum Includes Quantitative & Statistical Approaches/ Tools to Risk Assessments (Practical – upto 30 hours)	8
Total Semester 1 Credits		22
SEMESTER 2		
SN	Course Title	Credits
8	Advances in Hazard Specific Risk Assessment	2
9	Advanced Data Analytics in Risk Assessment	2
10	Risk Communication for Enhanced Preparedness	2
11	Risk Transfer Mechanisms and Risk Financing	2
12	Public Policy and Governance for Disaster and Climate Risk Reduction	2
13	Geo-Spatial Technologies in Disaster Risk Assessment	2
14	Sustainability & Risk Management	2
15	Research Paper	4
Total Semester 2 Credits		18
Total Course Credits		40

Thematic Break-Up

PERSPECTIVE-BUILDING COURSES

Course 1

Understanding Risk

Course 3

Risk & Vulnerabilities

Course 10

Risk Communication for Enhanced Preparedness

Course 11

Risk Transfer Mechanisms & Risk Financing

Course 12

Public Policy & Governance

Course 14

Sustainability & Risk Management

DATA ANALYTICS for RISK ASSESSMENT

Course 2

Introduction to Risk Assessment

Course 4

Introduction to Data Analytics

Course 5

Urban Risk Assessments

Course 8

Advances in Hazard Specific Risk Assessments

Course 9

Advanced Data Analytics in Risk Assessments

TECHNOLOGIES IN RISK ASSESSMENTS

Course 6

Technologies in Disaster Risk Assessment

Course 13

Geo-spatial Technologies in Disaster Risk Assessment

PRAXIS ORIENTED: FIELD PRACTICUM

immersive exposure to field realities and enable the development of a grounded understanding of disaster risks, vulnerabilities, resilience, recovery process and institutional structures that have implications in disaster risks. Field work plays a pivotal role in this regard and provides the experiential basis for the student's academic learnings.

RESEARCH ORIENTED: TERM PAPER

Writing a research paper requires demonstration of a strong knowledge of topic, engage with a variety of sources, and make an original contribution to the debate