

**Mahatma Gandhi Department of Rural Studies,
Veer Narmad South Gujarat University, Surat**

One year Post Graduate Diploma in Climate Change and Rural Society

Programme Structure:

This programme will be of 1 year (two Semesters) duration. The Course structure will be as follows.

Semester - I:

Paper Code	Subjects	No. of Credits
PGDCC1.1	Foundation Course	2
PGDCC1.2	Social aspects of climate change	4
PGDCC1.3	Economic aspects of climate Change	4
PGDCC1.4	Impact of and adaptation to Climate change	4
PGDCC1.5	Optional Paper	4
PGDCC1.6	Research Methodology	4
	Total Credits of Semester I	22

Optional Paper: The Student will have to select **one** optional paper from the following

Sr. No.	Paper
PGDCC1.5.1	Climate Change and Rural Economy
PGDCC1.5.2	Climate Change and Rural Livelihood
PGDCC1.5.3	Climate Change and Rural Poor

Note: Some of the topics in the optional paper will be exclusively based on Self study.

Semester - II:

Paper Code	Subjects	No. of Credits
PGDCC2.1	Project work on any one of the issues or organizations/institutes dealing with Climate Change and its impact	8
	Total Credits of Semester II	8

Syllabus for the Programme:

PGDCC1.1 Foundation Course for Climate Change and Rural Society:

Objective:

This course makes students aware about the Rural Socio Economic Realities and provides knowledge about concept of development, climate change and rural society as well as Climate Change policies. It is formulated for students who may not have background of Rural India and Rural Development.

Unit 1

Rural India- its characteristics and present situation. Problems of Rural India especially of the poor (poverty, Illiteracy, Unemployment).

Unit 2

Development- concept, characteristics, types, developmental models accepted by India, problems and perspectives of selected models.

Unit 3

Conceptual background of Climate Change and its causes.

Unit 4

Role of national and international agencies in combating impacts of climate change. Paris Declaration and initiatives by Indian government.

Unit 5

Climate change and Indian traditions

References:

1. Desai, Vasant (1988), Rural Development - Programmes and Strategies, Volume II, Himalaya Publishing House, Bombay.
2. Desai, Vasant (1991) Fundamental of Rural Development, Rawat Publication, New Delhi.
3. Ghosh, Arun (1992), Planning in India, SAGE, New Delhi.
4. Laxmidevi (1997), Planning for Employment and rural development, New Delhi.
5. Prasad, B K (2003) Rural Development: Concept, Approach and Strategy, Sarup and Sons, New Delhi.

6. Rau, S K (2002) Global Search for Rural Development, NIRD, Hyderabad.
7. Satya Sundraram (2002) Rural Development, Himalaya Publication, Mumbai.
8. Maharjan, K. L. and Joshi, N P (2013) Climate Change, Agriculture and Rural Livelihoods in Developing Countries, Springer.
9. World Bank (2009) World Development Report 2010 : Development and Climate Change.
10. Singh N and A K Thakur (20) Climate Change and Environmental Issues. TERRI, India.
11. MoEF and C (2015) Parampara. Available on http://www.moef.gov.in/sites/default/files/ebook/parampara-ebook/Parampara_2016_Ebook.html.

PGDCC 1.2 Social aspects of climate change

The Objective of the paper is to make students appreciate the role of society in and impact on the society. It also familiarize them with the linkages between climate change and health, migration and other issues pertaining to rural and urban poor.

Unit 1. Introduction

- ❖ Climate change and society
- ❖ Impact on small farmers
- ❖ Impact on rural and urban poor
- ❖ Unequal capacity for adaptation
- ❖ Underprivileged section
- ❖ Relocation

Unit 2. Integrating social dimension into climate change policy

- ❖ The Need and Justifications
- ❖ Merits and Demerits
- ❖ Poor Centric Policy

Unit 3. Social drivers of climate change

- ❖ How societal action responsible for climate change
- ❖ Changing consumption pattern
- ❖ Extension of technologies and its impact on climate

Unit 4. Impact of climate change on society

- ❖ Livelihood
- ❖ Consumption pattern
- ❖ Health
- ❖ Relocation

References :

- Schaftt K A and D L Brown (2011) Rural People and Communities in the 21st Century: Resilience and Transformation, Polity Press, USA.
- Dunlap, E and Brulle R J (2015) Climate Change and Society : Sociological Perspective, Oxford University Press, New York.
- <http://nca2014.globalchange.gov/highlights/regions/rural-communities>
- Lynn, Kathy; MacKendrick, Katharine; and Donoghue, Ellen M. (2011). Social vulnerability and climate change: synthesis of literature. Available at https://www.fs.fed.us/pnw/pubs/pnw_gtr838.pdf.
- GOI (2011) Adaptation to climate change with a focus on Rural Areas and India. Available at <http://nidm.gov.in/PDF/pubs/Adaptation%20to%20Climate%20Change.pdf>

PGDCC 1.3 : Economic aspects of climate Change

Objectives :-

This Paper is designed to make student understand the global and local economic aspects of climate change. The paper deals with the global and local concerns on economy and gives in depth knowledge on various strategies to deal with the impact of climate change.

Unit: 1. How climate change affects economy

- > Damage to property and infrastructure
- > Lost productivity
- > Mass migration and security threats
- > Coping cost

Unit: 2. Impact on Industry and other non-farm sector

Unit: 3. Impact on agriculture and animal production

Unit: 4. Impact on energy, health and migration

Unit: 5. Field Work

Reference:

1. Blanco J and Kheradmand H (2011) Climate change: Socio-economic effect. In-tech Publishers. Available on <http://www.intechopen.com/books/climate-change-socioeconomic-effects>.
2. OECD (2015) The economic consequences of climate change. OECD Publishing, Paris. Available on http://www.oecd-ilibrary.org/environment/the-economic-consequences-of-climate-change_9789264235410-en.
3. Ahemad J. () Climate Change and sustainable development. New Century Publications.
4. Houseer, T.; H. Slomon, R. Kopp and K. Larsen (2015) The Economic Risks of Climate Change. Colombia Press,

PGDCC 1.4 Impact of and adaptation to Climate change

Objectives:-

This Paper is designed to make student understand various impacts of climate change in the rural and urban environment and strategies to adapt the effects thereof. Also the student will gain in depth knowledge of impact and adaptation through case studies.

Unit: 1. Introduction

- > Impact on biosphere and biodiversity
- > Impact on agriculture and animal husbandry
- > Impact on forests and water bodies
- > Impact on human health and economy

Unit: 2. Adaptation in agriculture

- > What does adaptation in agriculture means?
- > Adaptation options
- > Linking adaptation and mitigation

Unit: 3. Adaptation and water resources

- > What does adaptation in water resource management means?
- > Governance and policy options in water resource management
- > Adaptation options
- > Linking adaptation and mitigation

Unit: 4. Adaptation in coastal zone

- > How does coastal zone affected due to climate change
- > What does adaptation in coastal zone means?
- > Adaptation options
- > Linking adaptation and mitigation

Unit: 5. Adaptation in disaster risk management

- > How does climate change impact disaster risk
- > What does adaptation in disaster risk management means?
- > Adaptation options
- > Linking adaptation and mitigation

Reference:

1. GIZ (2011) Adaptation to climate change with focus on rural areas and India. Available on <http://nidm.gov.in/PDF/pubs/Adaptation%20to%20Climate%20Change.pdf>
2. UNFCCC (2015) Climate change: Impacts, vulnerabilities and adaptations in developing countries. Available on <https://unfccc.int/resource/docs/publications/impacts.pdf>
3. Narain S, P. Ghosh, and others (2009) Climate Change perspectives from India. UNDP, New Delhi. Available on http://www.undp.org/content/dam/india/docs/undp_climate_change.pdf.
4. Mclean and Tsyban (2001) Coastal zones and marine ecosystem. In Climate Change 2001: Impacts, Adaptation, and Vulnerability. Contribution of Working Group II to the Third Assessment Report of the Intergovernmental Panel on Climate Change. Edited by James J. McCarthy Osvaldo F. Canziani, Neil A. Leary, David J. Dokken, and Kasey S. White, Cambridge University Press, Cambridge, UK, 343-379. Available on http://papers.risingsea.net/federal_reports/IPCC-2001-coastal.pdf

PGDCC 1.5.1 : Climate Change and Rural Economy

Objectives:-

This Paper is designed to equip the student with the basic knowledge of issues related to rural economy. The paper also deals with the adaptation and mitigation strategies to be adapted to nullify the impact of climate change on rural economy.

Unit: 1. Introduction

- > Fundamentals of Indian rural economy.
- > Contribution of Agriculture and animal husbandry in Indian economy
- > Contribution of non-farm sector in Indian economy
- > Rural poverty and unemployment
- > Cost of climate change

Unit: 2. Impact on agriculture and animal husbandry

- > Impact on food grain production and its cost.
- > Impact on animals and milk production

Unit: 3. Impact on non farm sector

Unit: 4. Impact on poverty and unemployment

References:

1. Dev M (2013) Climate Change, Rural Livelihoods and Agriculture (focus on Food Security) in Asia-Pacific Region. IGIDR, Mumbai India. Available on <http://www.igidr.ac.in/pdf/publication/WP-2011-014.pdf>.
2. Tol R S J (2009) The economic effects of climate change. The Journal of Economic Perspectives, Vol. 23(2): 29-51.
3. Maharjan , K L and N P Joshi (2013) Climate change, agriculture and rural livelihood in developing countries. Springer.

4. Narain S, P. Ghosh, and others (2009) Climate Change perspectives from India. UNDP, New Delhi. Available on http://www.undp.org/content/dam/india/docs/undp_climate_change.pdf.

PGDCC 1.5.2 : Climate Change and Rural Livelihood

Objectives:-

This Paper is designed to equip the student with the basic knowledge of issues related to rural livelihood. The paper also deals with the adaptation and mitigation strategies to be adapted to nullify the impact of climate change on rural livelihood.

Unit: 1. Introduction

- > Rural livelihood pattern and sources
- > How climate change could affect it

Unit: 2. Livelihood based on agriculture and animal husbandry

- > Change in cropping pattern and productivity
- > Newer areas of livelihood in agriculture
- > Linking adaptation and mitigation

Unit: 3. Livelihood based on common property resources

- > How common property would be affected
- > Role of common property resources in rural livelihood
- > Need for adaptation options
- > Linking adaptation and mitigation

Unit: 4. Rural livelihood diversification

- > Need for livelihood diversification
- > What does adaptation in livelihood diversification means?
- > Adaptation options
- > Linking adaptation and mitigation

Reference:

1. GIZ (2011) Adaptation to climate change with focus on rural areas and India. Available on <http://nidm.gov.in/PDF/pubs/Adaptation%20to%20Climate%20Change.pdf>

2. UNFCCC (2015) Climate change: Impacts, vulnerabilities and adaptations in developing countries. Available on <https://unfccc.int/resource/docs/publications/impacts.pdf>
3. Narain S, P. Ghosh, and others (2009) Climate Change perspectives from India. UNDP, New Delhi. Available on http://www.undp.org/content/dam/india/docs/undp_climate_change.pdf.
4. John Padgham (2009) Agricultural Development Under a Changing Climate: Opportunities and Challenges for Adaptation. World Bank, Washington DC.
5. Kaushik G and K C Sharma (2015) Climate change and rural livelihoods- adaptation and vulnerabilities in Rajasthan. Global NEST Journal, 17(1): 41-49.
6. Nrayan K and S K Sahu (2016) Effects of climate change on household economy and adaptive responses among agricultural households in eastern coast of India. Curr. Sci. 110(7): 1240-1250.
7. Dev M (2013) Climate Change, Rural Livelihoods and Agriculture (focus on Food Security) in Asia-Pacific Region. IGIDR, Mumbai India. Available on <http://www.igidr.ac.in/pdf/publication/WP-2011-014.pdf>.

PGDCC 1.5.3 : Climate Change and Rural poor

Objectives:-

This Paper is designed to equip the student with the basic knowledge of issues related to rural poor. The paper also deals with the adaptation and mitigation strategies to be adapted to nullify the impact of climate change on rural poor.

Unit: 1. Introduction

- > Rural poor and causes of poverty
- > Livelihood pattern and sources for rural poor
- > How climate change could affect it

Unit: 2. Dependence of rural poor on common property resources

- > How common property would be affected

- > Role of common property resources in rural livelihood
- > Need for adaptation options
- > Linking adaptation and mitigation

Unit: 3. Food security, health and migration and climate change

- > How does climate change affects food security
- > Climate change and health
- > Impact on migration
- > Adaptation and mitigation strategies
- > Linking adaptation and mitigation

Unit: 4 Rural livelihood diversification and poor

- > Need for livelihood diversification
- > What does adaptation in livelihood diversification means?
- > Adaptation options
- > Linking adaptation and mitigation

1. GIZ (2011) Adaptation to climate change with focus on rural areas and India. Available on <http://nidm.gov.in/PDF/pubs/Adaptation%20to%20Climate%20Change.pdf>
2. UNFCCC (2015) Climate change: Impacts, vulnerabilities and adaptations in developing countries. Available on <https://unfccc.int/resource/docs/publications/impacts.pdf>
3. Narain S, P. Ghosh, and others (2009) Climate Change perspectives from India. UNDP, New Delhi. Available on http://www.undp.org/content/dam/india/docs/undp_climate_change.pdf.
4. John Padgham (2009) Agricultural Development Under a Changing Climate: Opportunities and Challenges for Adaptation. World Bank, Washington DC.
5. Kaushik G and K C Sharma (2015) Climate change and rural livelihoods- adaptation and vulnerabilities in Rajasthan. Global NEST Journal, 17(1): 41-49.
6. Nrayan K and S K Sahu (2016) Effects of climate change on household economy and adaptive responses among agricultural households in eastern coast of India. Curr. Sci. 110(7): 1240-1250.
7. Dev M (2013) Climate Change, Rural Livelihoods and Agriculture (focus on Food Security) in Asia-Pacific Region. IGIDR, Mumbai India. Available on <http://www.igidr.ac.in/pdf/publication/WP-2011-014.pdf>.

8. Report of ADB, UN and World Bank. Poverty and climate change. Available at: <http://www.oecd.org/env/cc/2502872.pdf>.
9. Chakrabarty M (2016) Climate change and food security in India. ORF Issue Brief No. 157, Sept. 2016 Available on http://cf.orfonline.org/wp-content/uploads/2016/09/ORF_IssueBrief_1571.pdf.
10. Hallegatte Stephen et. al.. () Poverty and climate change: Natural disasters, agricultural impacts and health shocks. Available on <http://voxeu.org/sites/default/files/file/hallegatte%20et%20al.pdf>.

PGDCC 1.6 : Research Methods

Objectives:-

This Paper is designed to equip the student with basic elements of Social Survey and Social Research methodology, Data Processing and Out line of Report writing which may be useful to study and analyze the rural issues.

Unit: 1. Research Methodology

- > Selection of Problem Reflective Thinking
- > Statement of Problem
- > Review of Related Literatur (Meaning; Objectives; Sources

- > Subject matter and Scope
- > Types of Social Survey
- > Merits of Social Survey
- > Limitations of Social Survey
- > Planning of Social Survey
- > Pre Testing and Pilot Survey
- > Social Survey and Social Research

Unit: 2. Designing a Research Study

- > Research Concepts
- > Meaning, Characteristics and Functions of Concepts
- > Research Design
- > Elements of Research Design
- > Types of Research Design

Unit: 3. Sampling and Inquiry

1. Purposes of Sampling
 - > Principles of Sampling
 - > Advantage of Sampling
 - > Key Terms in Sampling
 - > Types of Sampling
 - > Sampling in Qualitative Research
2. Logic of Inquiry
 - > Science and Logic
 - > Elements of Logical Analysis: Terms, Propositions, Arguments and Syllogisms
 - > Validity and Truth
 - > Types of Reasoning of Arguments
 - > Strategies in Research

Unit: 4. Some Statistical Concepts

1. **Variables**
 - > Quantitative and Qualitative Variables
 - > Discrete and Continuous Variables
 - > Independent and Dependent Variables
2. **Scale**
 - > Nominal Scale
 - > Ordinal Scale

- > Interval Scale
- > Ratio Scale
- > Limitations of Hypothesis

Unit: 5. Data Processing and Report writing

- > Coding, Checking and Editing of Data
- > Classification, Tabulation and Interpretation of Data
- > Report Writing: Introduction, Research Methodology, Analysis of Data, Findings of the Study, Conclusions, Bibliographical References and Appendix

Unit: 6. Field work

References:

1. Ram Ahuja: Social Survey and Research, Ravat pub., ISBN-81-7033-750-x
2. Research Methodology: Methods and Techniques C.R. Kothari, Wiley Eastern Ltd., New Delhi.
3. Research Methods in Commerce - Amarchand D, Emeraled Publishers, Chennai.
4. Conceptual Foundations of Business Research - Rigley, Paul - H, John Wiley and Sons, New York.
5. Research Methodology in Social Science - B.C. Tandon, Allahabad.
6. Thesis and Assignment writing - Anderso J.berry H.D. & Poole M. Wiley Eastern Limited, New Delhi.
7. Research Methodology Techniques and Trends, Singh Y.K.; R.B. Bajpai, 2007.