

# **An IGNOU initiative for our Sustainable Future**

**Appreciation Programme  
On  
Sustainable Management of Ganga – A Scientific Approach**

*Chair for Sustainable Development*  
**Indira Gandhi National Open University  
Maidan Garhi, New Delhi – 110068, India**

“The Ganga, especially, is the River of India, beloved of her people, round which are intertwined her memories, her hopes and fears, her songs of triumph, her victories and her defeats. She has been a symbol of India’s age-long culture and civilization, ever changing, ever flowing, and yet ever the same Ganga”

*-Pt. Jawaharlal Nehru  
The first Prime Minister and great thinker of India*

The famous Ganga stotram by Adi Shankaracharya translated in English is as follows:

*O Goddess Ganga! You are the Goddess of the gods,  
O Goddess! You liberate Three Worlds, You are the flowing waves of water.  
O the spotless One! You wander on the head of Shiva,  
O divine Mother! My heart shall steadfastly meditate on Your lotus feet!*

*O Goddess Ganga! You are Jahnavi, the daughter of Sage Jahnu and the savior of the deprived.  
The flow of Your waves rupturing the King of Mountains ‘Himalaya’ look so graceful!  
You are the mother of Bhishma and the daughter of eminent Seer (Jahnu)  
In all Three worlds You are Supreme since You provide salvation to even those who are despicable.*

*O Mother Goddess eradicate my ailments, sorrow, and afflictions,  
O mother goddess destroy my sins and misdeeds of vicious mind,  
You are the quintessence of the Three worlds and the Garland of the Earth,  
O Goddess! You are my only shelter in this whole world.”*

## About IGNOU

The Indira Gandhi National Open University (IGNOU) was established by an Act of Parliament in 1985 to broad-base the reach of education and provides cost-effective and quality learning facilities to large sections of our population, including those living in remote and far-flung areas. Today, it serves the educational aspirations of about 3 million students in India and about **36** other countries. IGNOU imparts the study programmes through 21 Schools of Study, with a network of **62 regional** centres, more than **3000 study centres/tele-learning centres and around 60 overseas** centres. The University offers need based academic programmes, including professional, vocational and general awareness programmes to the seekers. Most of these programmes have been created to fulfil the learners' need for:

- ◆ acquisition of academic and professional qualifications;
- ◆ continuing education and professional development at the work-place; and
- ◆ skill-enhancement

The methodology of instruction in the University is learner-centric. The teaching-learning process is through self-instructional learning materials, based on the credit system. The self-study is aided by the support facilities provided at study centres throughout the country. The Virtual Class provides an e-learning platform to deliver online programmes of the University. The online platform is a complete virtual learning environment suite covering all activities from registration to certification.

IGNOU offers 338 Certificate, Diploma, Degree and Doctoral programmes comprising around 1,600 courses. These are supported by faculty members and academic staff at the headquarters and Regional Centres. The academic counsellors drawn from conventional institutions of higher learning, and professionals from various organizations also give the necessary back-up. As of now, IGNOU has about 700 centres equipped with one-way video and two-way audio facility and more than 134 EduSat television based centers with interactive facility. The application of state-of-the-art ICTs has further helped in reaching out to the hitherto un-reached sections of the society. Access, quality and equity are IGNOU's guiding principles.

IGNOU is also actively involved in research, training, extension and capacity building activities. It also co-ordinates and monitors distance education system throughout the country in its capacity as an Apex Body christened as the "Distance Education Council". It uses innovative technologies and methodologies and fosters convergence of existing systems of massive human resource required for promoting integrated national development and global understanding. To know more about the University please visit the website at <http://www.ignou.ac.in>.

## **Chair for Sustainable Development**

With the declaration of 2005-2014 as the decade of education for Sustainable Development by the United Nations, Indira Gandhi National Open University (IGNOU) established in March 2007, a University level Chair, cutting across disciplines and schools, to develop and promote Education for Sustainable Development in India.

The eminent agricultural scientist Professor M.S. Swaminathan has been appointed as the Honorary Chair for Sustainable Development at IGNOU. He is among the most distinguished and an internationally acclaimed leader in agriculture and sustainable rural development. His original concepts and operationalisation of **Agenda 21** in the nature of ever-green revolution, biovillages and village knowledge centres for technological and knowledge empowerment respectively of the rural women and men, have set models not only for India, but for most of the developing countries.

Through the Honorary Chair, the IGNOU would enhance awareness and know-how to a wide spectrum of scientists, environmentalists, administrators, social scientists, policy makers and enlightened corporate sectors on the urgent and imperative need to put sustainability in the centre of all their endeavours. To know more about the Chair please visit the website at <http://www.ignou.ac.in/csd/home.htm> [www.ignouonline.ac.in/save](http://www.ignouonline.ac.in/save).

## **Appreciation Programme on Sustainable Management of Ganga – A Scientific Approach**

The River Ganga has been since time immemorial, a unique National River System representing the tremendous socio-cultural, socio-economic, ecological and livelihood opportunities for millions of Indians specially those residing in the states in which the river flows. Indians have worshipped the river; have studied all aspects of its flora and fauna, tourism, trade and environment related aspects. However, inspite of commendable efforts of the Central and State Governments the river has become extremely polluted. The purpose of this appreciation programme is to inculcate awareness and sensitize particularly the younger generation about the importance of this river in every context. The issues have been flagged under the different blocks. It is expected that the Appreciation Programme would help in developing major, interdisciplinary activities of national relevance. This programme would facilitate and strengthen the ongoing, government supported research programmes, activates of NGOs, Industry and professional societies and the implementing agencies . Appropriate monitoring mechanisms would be put in place.

A sustainable science and technology based strategy for the management of this great river is called for. This Appreciation Programme would provide a conceptual frame work for launching many inter-disciplinary projects and would energise even individual initiatives. Once the overall population of our country is made aware of the special features of Ganga, it would be an

automatic swing towards keeping the river clean and enjoy its natural beauty and continue to use the river water on a sustainable basis for our future generation.

## **Programme Objectives**

- To sensitize the younger generation about the significance of the National river Ganga and its connectivity with our civilization and culture.
- To study the Source, Origin and Journey of the Ganga – tributaries, upstream and downstream linkages.
- To understand ecology and environment (hydrogeology, biodiversity -flora, fauna and microbes)
- To understand economic issues, livelihood security and demographic dimensions.
- To describe Indo-Gangetic Plain covering agriculture and industrial development and related issues.
- To bring out Public Health issues – water and vector born diseases, sanitation and waste disposal systems (sewage, industrial effluents, agricultural run-off, solid and hazardous waste etc.)
- To consider the scope for research and development and use of technologies.
- To outline various measures for capacity building for implementation of various programmes largely covering the above objectives.
- To highlight Socio-cultural aspects.
- To bring out issues related to policies, programmes legislations, regulations and various nodal institutional arrangements.
- To elaborate the role of public, media (electronic and print), NGOs, research and academic institutions, industrial houses and other stake holders.

## **Duration**

The programme can be completed in a minimum period of one-and-a-half months and a maximum period of eight months.

## **Medium of Instruction**

The Programme is offered in English

## **Eligibility Requirements**

The eligibility for joining this course would be a Graduation degree in any subject. The post graduate students, researchers, scientists, engineers, medical doctors, stake holders, policy makers, administrators, and other professionals with requisite educational qualifications will be given preference.

## **Credit System**

The appreciation programme on Sustainable Management of Ganga is of five credits. One credit involves 30 hours of study by the students. Thus, for completing this Programme a student has to put in 120 hours of study.

## Programme Structure

The programme is of one month duration and consists of five blocks.

- Block 1** - **Source, Origin and Journey**
- Block 2** - **Ecology and Environment**
- Block 3** - **Economic Issues and Livelihood Security**
- Block 4** - **Research, Development, Technologies, Capacity Building and Public Health**
- Block 5** - **Socio Cultural Aspects and Policy**

The detailed structure of the programme is as follows:

- Block 1 : Source, Origin and Journey**
  - Unit 1 Source and Origin
  - Unit 2 Journey – Tributaries, upstream and downstream linkages
  - Unit 3 Demographic Dimensions
  - Unit 4 Destinations – Estuarine and Coastal Region
  
- Block 2 : Ecology and Environment**
  - Unit 5 Ecology and Environment
  - Unit 6 Structure and Function
  - Unit 7 Degradation of Ganga Ecosystem (including Dams)
  
- Block 3 : Economic Issues and Livelihood Security**
  - Unit 8 Rural Resource and Livelihood Opportunities
  - Unit 9 Agriculture and Animal Husbandry
  - Unit 10 Fisheries Development
  - Unit 11 Industrial Development
  
- Block 4 : Research, Development, Technologies, Capacity Building and Public Health**
  - Unit 12 Scope of Research and Development
  - Unit 13 Available and Emerging Technologies and their Applications
  - Unit 14 Capacity Building, Sensitization and Awareness
  - Unit 15 Public Health
  
- Block - 5 : Socio Cultural Aspects and Policy**
  - Unit 16 Cultural and Religious issues
  - Unit 17 Policies, Legislation and Institutional Arrangements
  - Unit 18 Case Studies
  - Unit 19 Conclusions

## Project Work

The purpose of the this Appreciation Programme for Sustainable Management of Ganga – A Scientific Approach is to provide an opportunity to the students to understand various aspects of the river using the scientific tools. The students may develop a research project or a policy paper or a plan of action based on the course. Special programmes on studying the water quality of the Ganges specially for domestic use, reducing the pollution load and helping in developing eco-friendly tourism can be of great benefit to the students. It would help in generating and applying knowledge about this great river which has socio-economic, scientific and cultural significance for the country.

## Counselling

There shall be around 5-6 counselling sessions of one hour duration each.

## Fee

The fee for the programme is Rs 1000

## Evaluation System

The appreciation programme shall have three components for evaluation:

S.No.	Component	Weightage
1.	Continous assessment through assignments	30%
2.	Term end Examination	70%
3.	Project Work	Satisfactory Report

## Online Platform

The Appreciation Programme shall be available online on the SAVE (Sustainable Action and Virtual Education) Platform. It is a complete virtual learning environment suite covering all the activities from registration to certification. The following features shall be available to the registered students.

- 1. Walk in admission:** Admission will be available throughout the year. There shall be four cycles in an academic year i.e. **February, May, August, and November**. The two months period between the two cycles shall be used for advertisement and registration of the students for the next cycle. Registration form shall be specially devised with the facility of uploading scanned certificates, other required documents and photograph. Registration will be confirmed only after verification of the certificates and payment of the required admission fee.
- 2. Integrated multimedia courseware:** Once registered, learners will have access to personalized learning space (My Page). This includes self instructional

material, related audio/video, slides, self check exercises, etc. weaved in one platform.

3. **Online Counselling and mentoring:** Web cast based counselling integrated with text based chatting facility shall be used for counselling purposes.
4. **Online Project Platform:** Templates shall be made available for synopsis submission, project uploading and evaluation.
5. **Online Term End Examination:** Online examination will be conducted in specified centres.

## **Programme Development**

### **National Co-ordinator**

Dr. Manju Sharma, Former Secretary, Dept. of Biotechnology, Govt. of India

### **Course Contributors**

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## **CSD, IGNOU**

### **Advisors:**

1. Prof. M.S. Swaminathan, Honorary Chair and Advisor to the Programme
2. Prof. V.N. Rajasekharan Pillai, Vice-Chancellor
3. Dr. Latha Pillai, Pro-Vice Chancellor and Executive Director, CSD

### **Faculty:**

1. Prof. P.C. Kesavan, Honorary Professor
2. Prof. G. Achuthan Nair, Senior Consultant

3. Prof. M.K. Salooja, Director, School of Agriculture
4. Dr. M. Prashanth, Assistant Professor (Programme Co-ordinator)
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***For further information kindly contact:***

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INSPIRING CHANGE  
ENHANCING VALUE



***Programme Coordinator***

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