**REPORT**

Report of the Fellow who availed Fellowship / Training under Human Resource Development for Health Research.

1. Name and designation of Fellow : **Dr Arun Kumar Sharma**

**Professor**

2. Address  : Dept. of Community Medicine

University College of Medical Sciences

Delhi 110 095

3. Type of Fellowship and period : Short Term fellowship training in Foreign

Institute

4. Duration of fellowship : 3 months

5.         Frontline area of research in which : Environmental Health and disease

Training /research was carried out Modeling (Application of GIS, spatial

statistical analysis and spatial-

epidmiology)

6.       Name & address of mentor and host institute : Dr. Marilyn O’Hara Ruiz

Spatial Epidemilogy Lab

School of Veterinary Medicine

University of Illinois

Urbana-Champaign 61801, IL, USA

7.         Highlights of work conducted             :

            i)          Technique/expertise acquired           : Learnt principles of Geographic

(Give in about 150 words) Information System and its application in public health. Acquired skills in operating the ArcGIS software for making maps, managing geocoded data, spatial statistical analysis, spatio-temporal analysis. Completed a web based course in ArcGIS Desktop. Learnt usage of other GI software like GeoDA, CrimeSat, and SatScan.

ii)  Research results, including any papers,

prepared/submitted for publication

(Give in about 300 words) : Manuscript submitted: 1

**Application of GIS in public health in**

**India: a literature based review, analysis**

**and recommendations**

Manuscript prepared: 1

A**n integrated approach to understanding**

**the determinants of home births in a resource poor setting**

Abstract submitted for conference:

**Prevalence and Spatial Epidmeiology of Chronic Obstructive Pulmonary Diseases in an Industrial Town of India: An Interim Analysis**

Spatial Data analysis (2 data sets)

1. **Effect of air pollution and weather changes on exacerbation of asthma**

**: a cohort study**

1. **Prevalence and Spatial Epidmeiology of Chronic Obstructive Pulmonary Diseases in an Industrial Town of India: An Interim Analysis**

Project proposals developed

1. **Spatio-Tmporal Epidemiology of Chronic Respiratory Illnesses in Urban Indian Settlements (STEPCRUISE)**
2. **A quantitative assessment of role of waste water in Vector Borne Diseases in urban India**

(Detailed proposals are submitted in ICMR format)

iii)  Proposed utilization of the experience

in the Parent Institute. (Please specify the project developed whether originally proposed/ new project) :

1. **Develop a distance learning program in Spatial Epidemiology**
2. **Conduct a national conference on spatial epidemiology**
3. **Train junior faculty members in use of ArcGIS**

Signature of Fellow

Tasks accomplished during the fellowship:

1. Successfully Completed ESRI training module: Learning ArcGIS desktop
2. Attended course Path 439: Health Applications of GIS – Section A
3. Attended course Path 642: Geographic Methods for Health – Section E
4. Developed the following project proposal: Spatio-Temporal Epidemiology of Chronic Respiratory Illnesses in Urban Indian Settlements (STEPCRUISE)
5. Submitted following manuscript for publication: Application of GIS in public health in India: a literature based review, analysis and recommendations
6. Prepared following manuscript for submission: An Integrated Approach to Understanding the Determinants of Home Births in a Resource Poor Setting
7. Submitted an abstract for conference: Prevalence and Spatial Epidmeiology of Chronic Obstructive Pulmonary Diseases in an Industrial Town of India: An Interim Analysis
8. Carried out interim analysis of the project: Spatial Analysis using GIS based maps to determine the impact of environmental and occupational hazards in causation of COPD
9. Delivered a talk at the Public Health Rotation class: “Public Health in India: A Bird’s eye view”
10. Participated in summer Epi reading group: Deliberations in basic epidemiology
11. Participated in following meetings as an invitee :
    1. Development of project proposal: **Emerging pathogens in a dynamic and changing world: eco-epidemiological models for sustainable responses to infectious diseases in humans and animals**
    2. Guest lecture by Dr. Jon Epstein: The Ecology of Emerging Zoonoses
    3. Science seminar: Urban Issues and Space-time Behavior in Contemporary China
12. Interacted with following experts for development of project proposal:
    1. Prof. Mei Po Kwan, Chair, Dept. of Geography & GIS, University of Illinois-UC
    2. Dr. Serap Erdal, Assoc. Professor, School of Public Health, University of Illinois-Chicago