

Dr. Harka Gurung: An Eminent Environmental Geographer

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A Genius Geographer

It was mid-1986 when some Degree level (M.A. level was called so for sometime in the past) students of Geography, under the guidance of the teaching staff of Tri Chandra Multiple Campus, were seriously engaged in preparing a few maps for the exhibition that was due soon in order to celebrate the Silver Jubilee function of Nepal Geographical Society, when a very serious but bright faced gentleman was standing behind the students and very patiently and attentively watching us drawing, coloring or arranging the maps and other exhibits on the wall or the display boards. Suddenly his distinct and perspicuous voice was heard from behind asking us to arrange the maps in a nice and attractive way so that they would be distinctly visible by the visitors who would come to see the exhibition. Hearing the weighty voice of the gentleman some of the students looked behind and paid their respect to him. Then only it was revealed to me that bright looking gentleman was none other than Dr. Harka Gurung, who was already quite well known not only among the geographers but also among other important circles of intellectuals from home and abroad. He was the teacher of their teachers. Not only that. He had been the Vice-chairman of the prestigious National Planning Commission, Minister of various Ministries and author of several books and reports which covered not only the areas of geographical or cartographical interest but the issues and problems in history, sociology, anthropology, administration, agriculture, planning, ecology, education, employment, foreign aid, industry, commerce, population, migration, land use, political economy, regional strategy, rural development, science policy, tourism, travelogue, urbanization and arts and sports as well. I was astounded to have the first glimpse of the great geographer whom Professor Ram Kumar Pande has very aptly called “Genius Geographer” (Pandey, 1989:37). I was struck with awe when I saw a simple looking gentleman dressed rather casually, talking to us in simple words encouraging us to work hard to make the Silver Jubilee celebration a grand success. It was a success indeed under the guidance of Dr. Gurung who remained the President of the Society for a period of four years until 1990.

We had been told that it was sometime in the Sixties of the last Century that a special exhibition was held in the very limited space of the old site of the Tribhuvan University at Tripureswor which is now occupied by the big building of World Trade Center. That exhibition had made an attempt to disseminate the information regarding the Natural Resources of

Nepal, which could be utilized profitably for raising the standard of the people of Nepal through conservation of natural resources. It is also known that some time in 1963, the Tri Chandra people, had also successfully made arrangement for showing the development of map making and map drawing in different parts of the world including Nepal. But this exhibition that was going to be held soon was a very special one since it was a part of the Silver Jubilee celebration of Nepal Geographical Society, which was initiated by a few energetic young men in 1961. They had then just completed their college level study and apparently were very much encouraged by their teachers to make the best utilization of what they had learnt in the subject for the sake of the country as well as for the benefit of the fellowmen living in the country.

A Shining Student

It appears that Dr. Gurung was a very good student of his time. After studying I.A. in Tri-Chandra College he did not study in Nepal as he wanted to take up Honours in B.A., which was not provided in Nepal. In Patna also he maintained his position. In B.A. he passed in First Division with Honours and that year there was no one in the First Division. All of his Indian class friends who passed B.A. (Hons) that year had their names in the second division. In the result it was also mentioned in bracket that he obtained “Distinction in General Knowledge”. This was a great work of honour for a Nepalese youth who had joined Patna College, which would be reached after a strenuous journey for about three days from Kathmandu on foot, by lorry or bus, by train and by crossing the Ganges River in a steamer.

He did not stay there for his further study but he went to Great Britain and joined the renowned University of Edinburgh where he completed the Post Graduate Diploma in 1961 and finally completed his Ph.D. in 1965. He came back to Nepal towards the end of the year. Since he was educated entirely outside the country or under foreign universities, which did not have the study of Nepalese geography in their curriculum Dr. Gurung felt himself rather handicapped due to his lack of complete knowledge of his own country. That was the same problem with Professor U.M. Malla, who soon after passing the M.A. examination in 1953 had traveled to the northern parts of Okhaldhunga district which at that time covered the area between the Sun Kosi in the south and the Mahalangur Himal in the north, which contained the world famous peak of Sagarmatha which was more popularly known as Mt. Everest and had reached as far as the Base Camp and during his stay in the Khumbu area had studied the human geography of the area (Personal communication with Malla). In the same way Dr. Gurung, in 1966 has mentioned that got hold of a map, started looking at it and tried to locate the most remote and difficult, hence undeveloped, part of the country. Then he decided to visit Karnali Zone. Naturally he had to travel on foot for most of the time. First of all he went to Dang by air from where he went to Jajarkot and then to Jumla, observing the geographical features on the way to his heart's content. At

every step he discovered new sites, new subculture and new adaptation of the people to the environment. At one place he had to change the porter and the new porter was named Harki. He was very happy to find a person who had the name as his own, or at least similar to his name. It was “Harki” very close to “Harka”. But later he was utterly surprised to find out from others that it was Sarki, a shoemaker or, a cobbler, because the Barekot people pronounced H for S (Gurung, 1980). Later after reaching Jumla he visited places all around. He was very much impressed by the Sinja Valley people. Later he went to Mugu where he visited Rara Lake and other places. Then coming back to Jumla he moved further east to Tibrikot and turned towards Phoksumdo and Tarakot in Dolpo. After Dhorpatan he was thinking of going still further on foot to reach Pokhara. But partly because he was very tired and partly because he could hardly resist the temptation of getting an air lift by a DC-3 of the Royal Flight he shortened his trip by flying from there down to Bhairawa, thus ending his arduous but very fruitful as well as informative exploration through a very difficult part of the country, visited by only a few Nepalese and foreign travelers and scholars. He must have been very much thrilled to have a first hand experience of learning the variety of physical and cultural features of Nepal that he had been hearing in the past. More than that, he was well rewarded, on the basis of his writings and lectures which were illustrated with very beautiful and attractive slides, by the then government through his nomination to many important posts.

A Self-respectful Scholar

Recollecting his nomination as one of the members of the National Planning Commission he has told Major Deepak Bahadur Gurung, the Editor of “Parbate”, a newspaper that is published at Hong Kong (Gurung, 2001a):

“I was in the National Planning Commission for seven and a half years. At first Late Majesty King Mahendra appointed me a member of the Commission in May 1968. People were surprised at this appointment because usually an Economist would be selected but I was a Geographer. The reason was that after returning from United Kingdom, without trying to hunt for a job, I took my rucksack and went on a long tour to Karnali Zone on foot for three months and undertook research on that region. This news reached the ears of the King. Perhaps because people like Professor Yadu Nath Khanal and Dr. Bhekh Bahadur Thapa had recommended me for the post by saying that, “This person is a peculiar fellow who has a good knowledge of all the places situated at the remote mountains and all ‘creeks and corners’ of the country. I happened to be appointed in the National Planning Commission. I was just a member from 1968 to 1972. In 1972 the King promoted me to the Vice – Chairman. I orked in that post nearly for two and a half years” (Gurung, 2001:74).

Talking about his career after National Planning Commission later, he added (*ibid*):

“I did not leave National Planning Commission; I was made to leave. After that I was made a Minister. During three years I had to bear the responsibility of four ministries – Industry and Commerce, Education and Culture, Works and Transport and then Tourism. Since one single person had to look after four ministries, I might have committed some mistakes. Then I was thrown out, I must say, on account of the Carpet Scam. I was asked to resign from the post of the Minister, but as I had my bitter experience for three years as a Minister, I was fed up and I did not think it was proper to stay in the Legislature also as a nominated Member and I resigned from that responsibility as well” (Gurung, 2001a:75).

After leaving the administrative responsibility of the government it appears that Dr. Gurung felt free to move about and run his normal life without any formal constraints. Realizing that studies regarding public administration in Nepal had dwelt on its structure, trend and even ecology, as well as historical growth and decentralization, Dr. Gurung gave a geographical touch to the subject by deliberating upon the distribution pattern of Administration in Nepal. and an article was published in the very first issue of the Journal of Development and Administrative Studies in 1978 (Gurung, 1978). It was a paper which, in his own words, was an attempt to describe the spatial pattern of administration at a particular time and he had claimed that the approach had relevance in the context of the then emphasis on making administration and development services more accessible to the people. Later, he produced many articles and reports on several subjects including Environment under various specific topics.

An Eloquent Environmentalist

As an admirer of Dr. L. Dudley Stamp whom Gurung probably knew personally too since in 1961 both of them contributed Book Reviews in the Geographical Journal of Royal Geographical Society. Dr. Gurung was very much impressed with the idea of Applied Geography that was put forward by the renowned British Geographer who had recorded that the first half of the 20th Century had seen “the emergence of the modern study of Geography as an academic discipline fit to take its place among the older disciplines of science, the social sciences and the liberal arts” and had realized that there was “an intimate relationship between man and his environment and that no other subject seeks to understand or interpret this relationship in its entirety both in space and time” (Stamp, 1960). So during the first half of the last century geographical methods of survey and analysis were developed which were later applied towards the understanding and interpretation of some of the features of the world or a part of it. Thus the field of Applied Geography would cover the task of helping towards solving some of the great world problems such as the increasing pressure of population on space, the development of underdeveloped areas and others. And herein

lies the importance of Geography which has as its essential concept, the study of earth as the home of man, or the study of man's environment which includes several factors such as, location, the form of land surface as well as relief, geological structure, climate and weather, rainfall, temperature, wind, vegetation, fauna and flora etc. All these factors of the environment, singly and collectively, exercise a varying influence on the life of man. In the past some extremists went so far as to assert that the control was so strong as to determine the whole course of human existence. But Dr. Gurung, though seemingly a scientific neo-determinist in his deliberations, did believe that man who had technology and culture, contrary to other lesser animals, had the initiative and capacity to iron out the rough dictation of the natural factors (Gurung, 2001a).

Dr. Gurung has several articles, papers, books, reports, monographs relating to environment but in this paper an attempt is made to deal with the task that he had undertaken for IUCN during the 1990s. At that time IUCN, under the suggestion of Prof. Malla who had just completed his tenure in the National Planning Commission had joined the Project executed by IUCN team in which the writer was also involved for a speedy implementation of the Programs recommended by the National Conservation Strategy for Nepal. Realizing that Nepal, not unlike many other countries of the world had been known to have already shown signs of environmental problems and in order to tackle them it was felt necessary to know what sort of natural and cultural resources we possessed, how we had been using or misusing them and how best we could utilize them for the benefit of the poor people of the country, in particular. Thus the report that would have been produced would provide information regarding the present state of environment so that future environment related policies and strategies should get a better base for their formulation and implementation through various channels. In order to complete this project of preparing the State of Nepal's Environment, many distinguished contributors had been approached for necessary assistance and guidance. One of them was Dr. Harka Gurung.

We had the honour to request Dr. Gurung to contribute a chapter on "Forest Resources" and he had conveniently divided his chapter under the headings, *viz.*, - Types and Distribution, Forest Utilization and Deforestation. It would not be possible to repeat here what he had reported in his paper, though very desirable for want of space. However, since his findings were very pertinent and very appropriate to the exhaustive report on State of Nepal's Environment an attempt is made in the following paragraphs to summarize the most important findings of Dr. Gurung on these aspects.

The forests, as he had mentioned in his draft had included all forms of woodland composed of trees that constituted the top canopy and second storey as well as shrubs. According to Land Resource Mapping Project (LRMP) survey of 1978/79, such vegetation cover accounted for 42.8 per cent of Nepal's total area. He recognized that the two major factors that determined the typology of forests in Nepal were the east-west climatic variation and

vertical/altitudinal zonation with obvious differences in floral composition between the humid east and the drier west. He was of the opinion that such a phyto-geographical division was illustrated by the number of rhododendron species: at least 30 in the east, 8-15 in the central and only 5 in the west (Dobromez, 1972). After Stainton, he had summarized the basic regional features of the flora (Stainton, 1972) in the following way :

- the East Himalayan element is dominant in the flora as a whole which, however, becomes reduced westwards;
- the West Himalayan element is strongly represented in the western half of the country and some of the inner valleys;
- the Tibetan element is dominant in the flora of some dry valleys along the northern border; and
- locally endemic species of trees and shrubs are not an important element in the flora.

The most significant aspect of vegetation type is in the vertical zonation. These include five zones; tropical, sub-tropical, temperate, sub-alpine, and alpine. The tropical zone (below 1,000 m) vegetation of evergreen and deciduous trees prevails in the terai and inner terai. *Shorea robusta* is the dominant species. Riverine trees include *Acacia catechu* and *Salmalia malabarica*. The Sub-tropical zone (1,000 – 23,000 m) vegetation of the lower hills has mostly evergreens in the east and deciduous trees in the west. The common trees are *Schima* and *Castanopsis* while *Pinus roxburghii* is dominant in the west. The Temperate Zone (2,000 – 3,000 m) is mainly forest of evergreen oak and *Lauraceae*. At higher elevations, it has hygrophilic oak in the east and succession of fir and birch forest in the west. The alpine zone (4,000 – 5,000 m) includes dwarf rhododendron, dwarf juniper and meadows.

With due regard to the contribution of Stainton and LRMP who have classified the forests of Nepal into 35 and 25 types respectively, Dr. Gurung mentions the following as the five most prominent forest types by species (Table 1).

Table 1. Forest Types and Area in Nepal

| Forest Type | Category | Area (ha) | Percentage of Total |
|--------------------------------------|----------|-----------|---------------------|
| 1. Tropical Mixed Hardwood | Hardwood | 1,415,000 | 25.9 |
| 2. Sal Hardwood | Hardwood | 1,021,700 | 18.7 |
| 3. Deciduous Mixed Broad-leaved | Hardwood | 843,900 | 15.5 |
| 4. Chir Pine | Conifer | 405,700 | 7.4 |
| 5. Tropical Mixed Hardwood-Chir Pine | Mixed | 223,800 | 4.1 |

Source: Gurung, 1991 b.

Along with the uneven distribution of forests in Nepal Forest regions also provide density. It appears that low-density forest or degraded forest is most pronounced in the hill region. The mountain and hill regions constituting the highlands claim 78.3 per cent of such degraded forest. In the Terai it was less than 10 per cent. The hills also lead in the extent of medium density forestland. The terai has a quarter and the inner terai has a fifth of such forestland. Land with high-density forest cover is found mostly in the terai and mountain regions. The share of the hills in such dense forestland is 21.0 per cent.

Under forest utilization he has pointed out that the forest biomass which consists of timber, fuel- wood, fodder, litter and others are utilized for commercial and non-commercial purposes. Sale of timber has been declined as a result of the conservation-oriented policy. Forest products also include herbs of which at least 40 varieties are exported. Export of such herb also had shown a decline during the 1990s.

However, under non commercial use, it was realized that the main pressure on forest resources was in the form of fuel-wood since of all forms of energy consumed in the country. 96 per cent is derived from traditional sources which include agricultural residue and animal dung as well. The proportion of fuel-wood is generally much higher in the highlands due to its colder climate and distance from the supply point of commercial energy. Based on a rough assumption of one cubic meter of wood per capita and 75 per cent of this from forests, one estimate has given an extraction of 5.6 million tonnes of fuel-wood per year (LRMP, 1986). Fodder for livestock also forms another major source of pressure on forests. The annual requirement of fodder is assumed to be 16 million tonnes of dry matter and the 35 per cent of this may be derived from forests. The assumed requirement of timber is based on 0.4 cubic meters per capita a year with a dry weight of 0.2 tonnes. Thus the total annual requirement estimated is 6 million cubic meters. Thus forests are supplying 14.2 million tonnes of dry weight product per year. And most of these are in the form of fuel-wood and fodder.

So far as the aspect of deforestation is concerned since Nepal lacked time series data on its forest resources it was difficult to assess the extent of deforestation. The first attempt, according to Dr. Gurung was made in the early 1960s to prepare an inventory with the help of aerial photographs (Scale 1:21120) but it had excluded most of the highland zone. It was reported the lowlands had 52.6 per cent as forest land, 38.8 per cent as cropland and the remaining 8.5 per cent as other land (FRS, 1967). A more comprehensive inventory of land use was prepared under the Land Resource Mapping Project (LRMP) based on 1978/79 aerial photographs (Scale 1:50000). Land Use Data of 1964/65 Forest Resource Survey (FRS) and the 1978/79 LRMP, however, are not strictly comparable since they vary in the areal extent, photographic scale and definition of land use categories. But the proportion of respective land use types during the two survey periods provides an indication of progressive deforestation. Within the hill zone, forest land share declined from 58.1 per

cent in 1963/64 to 49.1 per cent in 1978/79. In contrast, cropland increased from 27.3 per cent in 1963/64 to 32.9 per cent in 1978/79. LRMP has made attempts to estimate the extent of deforestation by adjusting the information derived from 1964/65 and 1978/79 aerial photographs. Accordingly, during the 14-year period, forest area covered by crowns is said to have been reduced by 25 per cent or at an annual loss of 2.1 per cent. On the other hand, forest area not covered by crowns had gained by 15 per cent and shrub land increased by 61 per cent. Over all there was a loss of 382,200 hectares of forestland in a decade and a half (MOFSC, 1987). Later estimate on land use change during 1979 – 1986 has indicated a further depletion of 80,800 hectares of forestland. The rate of forest depletion varied widely among the elevation zones. The mountain zone is assumed to have gained marginally. In the hill the loss was 0.2 percent only. Nearly 90 per cent of all forest area lost was in the tropical Terai plain, at an annual rate of 1.8 per cent (Gurung, 1991).

The main causes contributing to the deforestation in Nepal is over-exploitation. This is particularly the case in the hill areas with a high population density. The hills supported 41.2 per cent of the total population with 32.9 per cent of agricultural land. An overwhelming bulk of population is rural dependent on subsistence agriculture. The region also has the least proportion of forestland with high crown cover as well as the largest share of livestock population. The pressure on forests of Nepal is three-fold : conversion to arable land, overgrazing of cattle and other animals, and fuel extraction. It has been estimated that on an average one-third of the fodder requirement for livestock is derived from the forests.

The basic underlying factor contributing to the depletion of forests may be identified as overpopulation. An application of population pressure index (PPI) for the decade 1961-71 indicated that 11 out of 15 mountain districts and 34 out of 36 hill districts were overpopulated (Shrestha, 1982). On the other hand, all 18 terai districts and 4 out of 6 inner terai districts were underpopulated.. Thus of the 47 overpopulated districts in the country, 45 were from the highlands. These districts are also the main sources of out-migration. In fact, the economy of the hills since the mid-19th Century has been partly sustained by seasonal, circular and permanent migration. Deforestation in Nepal has been referred to as an inevitable product of food deficiency (LRMP, 1986).

Various harmful effects have been attributed to forest depletion. These range from outright deforestation to desertification, soil erosion to flood havocs, to even climatic change. However, despite the fact of progressive deforestation, there are no scientific evidences to support statements that soil erosion, flood and siltation have been accentuated in recent years.

However, Dr. Gurung (Gurung, 2001b) has pointed out that two phenomena might be attributed as the chain reactions of forest depletion. These relate to economic and

demographic aspects. Declining agricultural productivity and increase in out-migrations from the highlands. In a way these are inter-related. Subsistence agriculture as practiced in most areas of Nepal is very much dependent on extensive exploitation of public land, particularly forest land. It provides grazing and fodder for livestock that in turn supplies manure to maintain fertility on cultivated land. Depletion of forests leads to reduction in nutrient supply to the soil and decline in productivity, which in turn induces more extensive methods of cultivation and out migration to new frontier areas.

Last Few Words

During the time when he had to be consulted not only for his own contribution but also to seek some advice on other various topics that had to be included in the Final Report, he very generously made himself available for any further discussion and he has impressed his friends, colleagues and students by his free and frank behavior and most amicable discussions whenever necessary. It was really a shocking experience to hear of his sudden demise as a result of the fatal accident in the remote corner of Nepal. The only thing we can do at such a moment is to pray to God and promise that we shall follow the footsteps the great personality and try to make him immortal by highlighting his contributions to Geography and so many other good deeds he had done for the development and service of the nation that he was so very fond of.

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