An Overview of Geography Education in Pakistan

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Abstract

Geography education in Pakistan has not been evaluated so far, causing many problems in the progress of this subject. This research article is an attempt to get initiative in this regard. There are certain challenges which geography education presently facing in Pakistan including, curriculum development, status as a scientific discipline, effective teaching and learning, resource deficiency and research promotion. Thus, absence of balance curriculum design at all education levels and lack of modern teaching techniques brought geography to static situation in Pakistan. There is a need of revising the curriculum, introducing training courses for teachers, sufficient resource allocation to the departments of geography for the maintenance of their laboratories and research activities, and to promote geography as a strong academic discipline nationally and internationally.

Keywords: *Geography education, curriculum, future perspective*

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INTRODUCTION

Today, at the dawn of the 21st century, geographical education has to play a crucial role in the general educational systems of all countries around the world. In the forthcoming years and decades, today's learners need to act as responsible citizens with regard to complex key issues that are of great environmental, social, cultural, economic and political significance. Geographical education is one of the educational areas that teach learners the thinking skills required to understand and to act sustainably in the world. Without geography, young people are unprepared for an increasingly global future (Brooks, 2006).

While geography has undergone progressive changes in other parts of the world, in Pakistan it is still facing the crises of identity and recognition. Unfortunately the general concept about the subject is that it is concerned only with listing the facts and features of the various parts of the world. Therefore, it is thought that geography can be useful only as a general knowledge subject and should have no other significant and academic value. No one is prepared to believe that geography uses data to study spatial relations related to population, urban sprawl, regional planning, land use policies, industrial location, environmental pollution, rural- urban migration, along with many other issues. This ignorance and apathy towards geography in Pakistan is really unfortunate.

Geography has emerged as a discipline which focuses on the man and environment interaction. Considering geography as a field of inquiry, there has been two major approaches, first, is the spatial approach which mainly focuses on the areal distribution of phenomenon while the second one is the temporal approach which concentrates on the changes occurring over the period of time. Geography is also considered as a bridging subject between the physical sciences and social sciences, Therefore, it has very deep relation with other disciplines like physics, chemistry biology, soil sciences as well as economics, demography, sociology, statistics etc, as said by Baerwald," The notion that geographers might look beyond their own field to explore topics that would seem to lie in the domain of other fields have been an

inherent trait of geography since its establishment as a modern discipline"(Baerwald, 2010). The cores, contexts, emphases, and approaches of disciplines change over time. In some countries, geographers could not follow the developments taking place in the modern world, many of geographical subjects have remained idle and unfortunately, the gap left by the geographers has been filled by other scientist(Incekara, 2010).

Butt (Hogarth, 1921) stated that while considering the future security of geography education we must be mindful of the nature of the modern learner and of the demands of modern societies. Young people are growing up in an increasingly dynamic world. The importance of 'knowledge transfer', the globalization of 'knowledge economics' and the demand for workers to possesses new skills and ways of understanding all demand a rational response from education. Hence, geography must take account of the rapidly changing employment market.

As an academic discipline, there is a marked difference about the concept of geography teaching at school level and university level. Unwin and Walford are of the view that the changes in the curriculum of geography at school level text books are the reflections of societal and technological changes(Unwin, 1992; WALFORD, 2001). It has been observed that for the teaching of geography the teachers are encouraged to adopt technical approaches rather than intellectual activities(Morgan & Lambert, 2005). Gudmundsdottir's research indicates that "teachers have values, influenced by their subject knowledge that affects how they teach"(Gudmundsdottir, 1990), this approach is also adopted by Korthagen, in which he expressed " teachers may in fact be influenced by a 'mission' close to their core being that drives their values, perspectives and ultimately their work in classrooms"(Korthagen, 2004).

In recent years, geography educators have sought to make their pedagogy relevant to pressing social and environmental issues, integrating the approaches of place-based education can make geography education more relevant(Israel, 2012). Community base research and community based learning provide potential significant potential for geography's and geographer's engagement in societally relevant research and learning. Placing the academic curriculum into a "real world" context helps students realize geography's applications(Krumme, 2006). Mohan (Mohan, 1995)is of the view that geography students should engage more fully with their local communities, 'not just as passive observers but as active participants and contributors'. Thus, geography as a discipline, has a long history of developing learning settings, roles of students and staff beyond the traditional parameters of the classroom, and for engaging with diverse communities as part of its delivery through fieldwork(Skole, 2004). Hence effective geographic practice must also be geographical; it is at its best when engaging across a variety of places, spaces and scales(Sheppard, 2004).

Unfortunately, in Pakistan one of the obstacles in the promotion of geography as a subject is that the higher education authorities had never acknowledge the importance of geography as a useful subject. Geography as compared to other subjects has not been allocated the reasonable funding and resources, that is why the quality and quantity of research in geography remained relatively low (Israr-ud-Din 1991). In Pakistan's HEIs (Higher Education Institutes), geographers are responsible for identifying major physical, social, economical and ecological problems, and ideally, then working with community organizations to find solutions for those geographical issues. Geographers can examine where certain social groups are concentrated and how they are related to other social groups and concentrations. They can help find solutions to common problems of social differences and inequalities(Klein et al., 2011).

HISTORICAL OVERVIEW

Geography as an academic discipline was being taught in the schools, colleges and universities of the subcontinent for almost a century. But its status and role has never been evaluated. Geography enjoyed a better status before partition (1947) of Indian sub-continent. It was a compulsory subject in all schools and so as history and were taught separately. The world basic knowledge was considered and geography was taught in a well planned manner in schools up to grade 10. The evolutionary growth of geography in Pakistan has so far been very slow and hence the subject as a whole has remained undeveloped. But what is, of more serious concern, the role of geography in the nation building has not been defined. This of course is partly due to the old style syllabi and to a good part, due to a misunderstanding of modern geography and the potentials of geographers.

Geography as a subject in schools in the Indo Pakistan sub-continent began to be taught when the British system of education was introduced. In the course of time when college and universities were opened, geography was also included at the advanced level. It is believed that Muslim University, Aligarh, was the first to introduce Master's Degree in Geography in

1920. According to Dr. Mushtaq-ur-Rahman, geography was stagnant and stereotyped during the first 15 years of Pakistan's existence (Israr-ud-Din, 1991). Only graduate department at the time of partition was in the Punjab University, which was established in early 1940s. After independence of Pakistan in 1947, various departments at different national universities were established including University of Karachi (1952), University of Sindh Jamshoroo (1955), University of Peshawar (1956), Quetta (1984), Government College Rawalpindi (1963) and Bahawalpur (1986). Recently new departments of geography established in Bahaudin Zikria University Multan and Sargodha Universities. Thus, it is more than 64 years since Pakistan has been offering higher education in the subject of geography.

Contrary to the position of geography in higher education, it might be possible to affirm that this field has the least importance in primary, middle, and secondary education because the curriculum Wing of Ministry of Education, Pakistan ignoring the importance of geography at these levels. The big blow to the subject was made in early 1960's when the independent position of geography was terminated in schools and to be included as part of the social studies. Since then the form of both history and geography has been distorted. Main reason of this situation is that so-called STEM disciplines: science, technology, engineering and mathematics, are given priority throughout the country.

GEOGRAPHY LEARNING AND TEACHING (PRIMARY AND SECONDARY LEVEL)

Development of Geography in Higher Education (GHE) in any country involves many factors, three of them are particularly important, first is the overall conditions of Higher Education in that country, second; social and economic development and third is increasing globalization(Li, Kong, & Peng, 2007).Variations can be observed in terms of identity of geography education throughout the world, as in some places it is growing and strengthen while in others it is declining or vulnerable to decline. Drivers of development and inhibitors of decline are varied too.

The unique position of geography which makes it countable toward both physical and social sciences has caused it a setback in its identification as a separate discipline of knowledge in Pakistan too. Geography does not emerge as a distinct subject up to Grade 1 to Grade10, but its topics of physical branches are placed in the book of elementary sciences with other subjects of physics, chemistry and biology, while those of human and regional branches of geography are grouped with the subjects of social studies. The syllabus is devoid of any geographical concepts, ideas and skills. The subject becomes obscure, instead of taking roots in the secondary education thus leaving no foundation for building of geographical knowledge in the higher classes. This integration of geography with social studies and science subject in schools, has adversely affected the standard and quality of teaching at the graduate and post- graduate level. Unlike, situation is totally reverse in the Private Schools of Pakistan, where Geography is given considerable importance. Unlike government schools of country, geography is the part of Social Studies up to Grade-V, but Grade VI to VII and O-Level and A-Level got the distinct courses of Geography.

Medium of instruction is Urdu in most of the government schools of Pakistan. Normally teaching at primary level officially requires a one year Primary Teaching Certificate (PTC), with entry based on the Secondary School Certificate. Lack of essential teaching facilities and teacher absenteeism are the two main problems at schools. In this way, the integration of geography with social studies and general science in schools, has adversely affected the standard and quality of geography teaching at the graduate and post-graduate level.

On the other hand, teaching in private schools is up to the mark. Due to the sufficient resources, they provide appropriate teaching tools to the teachers to enhance their teaching practice. Maps, atlases, models and computer based exercises are used to teach geography to the students. Teachers are appointed on the basis of their relevancy to the subject which they are supposed to teach, that ultimately improve the learning and teaching environment. Medium of instruction is also English in these schools which are essential to get international importance of the subject. Main reason behind this disparity is the difference in the economic conditions of the private and government schools.

Lambrinos (2006) argues that geography teaching faces almost the same problems around the world(Lambrinos & Bibou, 2006). Generally, in the context of school teaching, characteristically, the non-specialist teachers are prone to showing an evidently indifferent attitude both towards the subject and the students for no other reason than an evident lack of knowledge and proper groundings in the subject. It is highly regrettable that untrained teachers are practicing the old methods requiring their students to open up their text books and reading out word by

word before them. In this way any interest in the subject could hardly be generated among the students. The position of a non-specialist teacher of geography could be compared to a teacher of mathematics teaching biology and vice-versa.

GEOGRAPHY LEARNING AND TEACHING AT HIGHER SECONDARY LEVEL

Higher Secondary level of education is generally offered by the High Secondary schools or by the colleges of the country. The Education system of this level is controlled by the Board of Intermediate and Secondary Education of all districts.

As stated earlier, geography is not an independent and a separate entity in the secondary schools curriculum. It is only in the Intermediate/Higher Secondary classes that it has been given place as an individual but optional subject in the curriculum. It is included in the humanities group instead of science group to be selected by the students as optional along with some other subjects. At this level syllabus of geography consists of the physical geography and regional geography of the world. The physical geography covers basic knowledge of all the spheres (hydrosphere, atmosphere, lithosphere and biospheres). While regional geography gives the encyclopedic knowledge to the students about world (Table 1). This two year level is totally devoid of practical work, having just some fundamental exercises of map projections. A main drawback in the course is that the text books recommended are in Urdu translation, limiting the concepts of students. In pre-degree classes the part on regional and human geography is an irrational fact centered material with no emphasis on ideas and skills. Instead the material should have been arranged and designed to incorporate the three sets, facts, ideas and skills. The specific facts should be studied with detailed examples at different scales, including local, regional, national and international. Similarly practical exercises of the learned knowledge must be the part of this course.

The deficiency of proper knowledge and teaching methods of the development trends brought the position of geography to a stationary position. The absence of an integrated package of text book, work book and teacher's guide is due to lack of interest in geography to promote the subject and convert it from merely a store of facts to a more rational subject with emphasis on thinking process, decision making skill in the pupils and with ability to manipulate data rather than to store them.

The teachers who are appointed to teach geography find themselves in an awkward situation because of lack of training in teaching methods; secondly required facilities are also not available. Another problem is the lack of teacher's training to learn the modern methods of teaching geography. All these factors cause the lack of interest of students in the subject of geography, that's why they prefer other subject like economics, statistics, and computer as of their optional courses instead of geography.

Table 1 Geography Curriculum for Intermediate and Graduate level in Pakistan

Year at College	Compulsory Courses	Practical Courses	Research Work
Intermediate Geography Courses			
1st year	Physical Geography		
2nd year	Regional Geography of the World	Fundamentals of Map Making and Map Interpretation	
B.A/B.Sc Geography Courses			
3rd year	Physical Geography	Surveying-Plane Table survey Chain survey	
4th year	Geography of Pakistan Human Geography	Map Making and map projections	Report Writing

GEOGRAPHY LEARNING AND TEACHING IN HIGHER EDUCATION

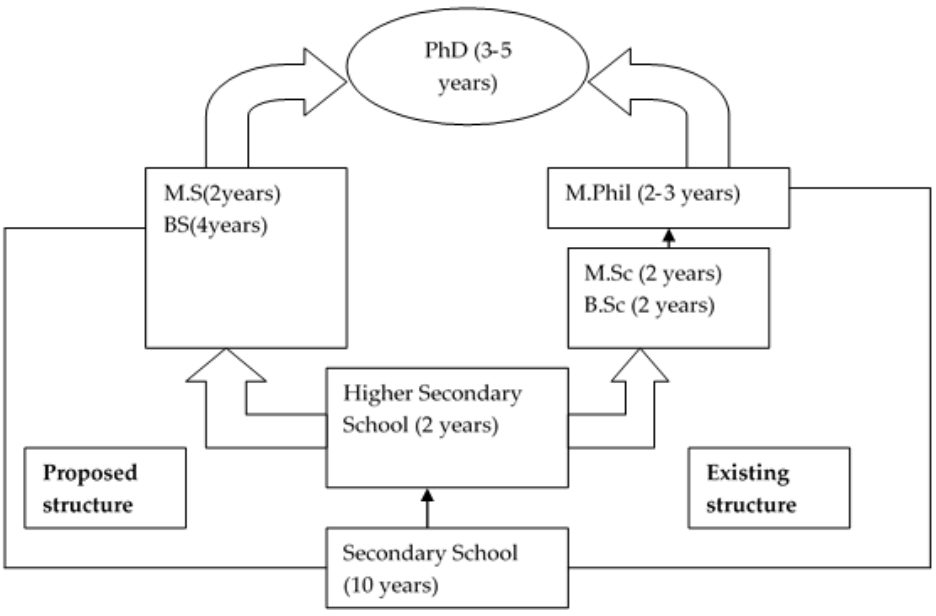
Within universities geography as a discipline should be used in the development of critical intellects that can be employed creativity in constructing new knowledge (Gudmundsdottir, 1990). Higher education in Pakistan refers to all levels of education above higher secondary or intermediate. Colleges and Universities are the main institutions which are offering higher education. Conventionally, geography at graduate level is the part of colleges, but all the concern academic matters ranging from curriculum design and examination are supervised by university department of Geography. Geography is offered by most of the colleges of the country but many of them lack the teaching staff due to which it is not one of the forefront subjects of the colleges. It is again the optional subject at graduate level; with one difference that the science students can also opt this subject unlike intermediate level where it is only offered to students of humanities and arts. At graduation level mostly science student select geography as a third best choice.

The condition of the geography curriculum at graduate level is not different then the intermediate level. Graduate level can be split up into two years of study, locally referred as third year and fourth year of college studies. Course contents of third year comprises on the physical geography, with practical of plane table surveys and chain surveys, which are really out dated methods as compare to the international advancements of practical geography. Forth year geography curriculum consists of two basic courses, Human Geography and Geography of Pakistan. The course contents of Human Geography are very basic while that of Geography of Pakistan typically explain the physical and human aspects of region. Field survey and writing report is the only practical thing in the whole curriculum of degree course (Table 2). But the portion on regional geography of Pakistan and Human Geography is an irrational fact centered material with no emphasis on ideas and skills.

The topics of physical geography are more or less the same as in the intermediate classes. There is the repetition of topics, in addition, the nature of material is too descriptive having no scope for analysis and provide no training to the students in solving the problems of the modern age and particularly the physical issues of Pakistan which includes, events of disaster and control and the implementation of GIS and Remote sensing.

After getting graduate degree from colleges, students have to get admission in university for completing their master degree. Universities are either public or private in Pakistan. Public universities are funded by the Higher Education Commission of Pakistan; presently out of total 73 public sector universities working in Pakistan approximately 10 of them retain the specialized department of geography. Generally three types of geography degrees are offered by the universities, those are Bachelor, Master and Doctoral. Conventionally most of the universities are offering B.Sc(Bachelor of Science) and M.Sc(Master of Science) in geography, but as the Higher Education proposed system(Figure 1), is under transition to North American Style (i.e. BS- MS) therefore few universities are in progress to develop this new system.

Figure 1 Structure of Higher Education System of Geography in Pakistan- Existing and Proposed



In contrast to the secondary education curriculum, Higher Education Commission of Pakistan established a committee of experts in 2007 for the development of unified template to standardize degree programs in the country to bring the national curriculum at par with international standards and to fulfill the needs of local industries. For the purpose of curriculum revision various committees are constituted at the national level, comprising of senior teachers nominated by universities or degree awarding institutes. The meeting of National Curriculum Revision Committee (NCRC) is being held annually for the up gradation of Geography in Higher Education sector. Therefore, NCRC design a balance curriculum for post graduate classes (M.Sc). There is flexibility for all the geography departments to change the curriculum according to the needs and demands of region and availability of specialized faculty, while the main framework remains the same as suggested by NCRC. Curriculum of first year, of M.Sc (I-II-semester), mainly comprises on the fundamental courses of physical geography (geomorphology, oceanography, climatology etc) and human geography (population, economic, settlement and environment geography etc). Later on, in next year (III-IV semester) several elective courses are offered which are selected from the list of elective courses as suggested by NCRC, and which is largely depend on the availability of the specialized teachers (Table 3). Such options for selecting elective courses expand the knowledge of students from general to specific, and give them opportunity to pick these subjects for in-depth studies and research. Courses of Surveying, Map analysis and Projections, Remote Sensing and GIS can help to increase the practical skills of students in geography.

Table 2 Geography Curriculum for Post Graduate Level (M.Sc Geography)

Semesters	**Core Courses**	**Practical Courses**	**Elective/Specialized Courses***	**Research Work**
First	Geomorphology Oceanography Economic Geography	Surveying Computer applications		
Second	Climatology Regional Geography Geographic Thoughts and modern concepts Quantitative techniques	Cartography		
Third	Research methods Settlement Geography	Map analysis and Projections GIS	Elective I ElectiveII	
Fourth	Geography of Pakistan	Remote Sensing and its application	Elective I ElectiveII (or Dissertation)	Research Report
Source: NCRC-2009 *Table-4				

Quantitative Techniques and research methodology are the par of compulsory courses which strengthen the student's research skills and facilitate them to write research thesis and field report (Table 2). Out of ten departments of geography in the country, only three are offering PhD in Geography, and four offering M.Phil./MS, thus the condition for higher education in Pakistan is not satisfactory.

In contrast to the schools and colleges, pedagogic techniques in universities are better, which mainly based on reflective teaching, lesson planning for geography, investigation, field works, and resource enhance teaching. Almost all departments have well equipped computer and surveying labs, but only few departments have GIS trained faculty. Furthermore, NCRC purposed new BS and MS curriculum in 2009 (Table 4, Table 5).This curriculum seems to full fill the international demands of Geography education.

Table 3 Elective/Optional/Specialized Courses of Geography

Group-A **Physical Geography**	**Group-B** **Human Geography**	**Group-C** **Applied Geography**	**Group-D** **Regional Geography**	**Group-E** **Geoinformatics**	**Group-F** **Techniques**
Pleistocene Geomorphology Quaternary Geomorphology Coastal Morphology Fluvial Morphology Glaciology Geography Meteorology Hydro-geography Advance Plant - Geography Zoo-Geography of-Arid Lands Soil Geography Climatic Change Studies Geophysics Geolithology Mathematical Geography Geodesy /and Advance surveying	Cultural Geography Social Geography Population Geography Transportation Geography Urban Geography and Planning Rural Settlement Geography Agriculture Geography Urban and rural land use Political Geography Behavioral Geography Geography of Manufacturing Geography of Marke-ting Regional Planning Geography of Recreation and Tourism Military Geography Medical Geography Industrial Geography Geography of Migration and Regional Development Historical Geography Geography of Health Care Geography of Housing Geography of Crimes Geography of Administration Geography of Religion Geography of Nutrition	Environmental Geography Quantitative Geography Gender Geography Geography of Natural Hazards and Disasters Applied Geomorphology Development Planning Sustainable Development of Natural Resources Environmental Impact Assessment (EIA) Applied Cartography Advance Applied Geography Social Impact Assessment (SIA) Mountain Geography Geography of Retailing Urban Environmental Planning and Management	Far East South and South East Asia South West Asia Central Asia Western Europe Eastern Europe North America Latin America North Africa Sub Sacharan - Africa Australia Muslim World	Geographical Analysis Global Positioning System Digital Image Processing Spatial Data Visualization Spatial Modeling Photogrammetric Spatial Data Infrastructure Cyber Geography Computer Cartography Cartographic Techniques	Mathematical Geography Geodesy/ advance surveying Cartographic Techniques Computer Cartography

Source: Revised Curriculum of Geography 2009-HEC

Note: Selection of elective subjects depend upon the availability of faculty, specialized in that respective subject

Table 4 Curriculum of BS Geography as Proposed by NCRC

Semesters	**Compulsory Courses**	**Elective Subjects***	**Practical Courses**	**Research Work**
First	Foundation I- Fundamentals of Geography			
Second	Foundation II-Physical Geography			
Third	Foundation III-Human Geography			
Fourth	Foundation IV- Geography of Pakistan		Foundation V -Map Work and surveying	
Fifth	Foundation VI- Historical Development of Geographic Thought Major-I Geomorphology Major-II Climatology Major-III Meteorology Major-IV Oceanography		Foundation VII-Cartography	
Sixth	Foundation-IX Population Geography Major-V Economic Geography Major-VI Research Methodology Major-VII Settlement Geography		Foundation VIII-Quantitative Geography	
Seventh		Elective-I Elective-II	Major-VIII Geographical Information System Major-IX Remote Sensing	Major-X/IX Research Project/Internship (PartI)
Eight	Major-XII Region and Regional Concepts Major-XIII Environmental Geography	Elective-III Elective-IV		Major-X/IX Research Project/Internship (PartII)
Source: Revised Curriculum of Geography 2009-HEC *Table-4				

Table 5 Curriculum of MS Geography as Proposed by NCRC

Semesters	Core Courses	Elective/Specialized Courses*	Research Work
First	Advanced Physical Geography Advanced Human Geography Advanced Techniques and Tools Advanced Research Methodology		
Second		Elective-I Elective-II Elective-III Elective-IV	
Third and Fourth			MS-Thesis
Source: Revised Curriculum of Geography 2009-HEC **Table-4*			

CHALLENGES AND FUTURE SUGGESTIONS

The insight of overall condition of geography education revealed some challenges including curriculum development, individual status of geography as a discipline, effective teaching and learning geography, resources, promotion of research journals and geographical associations.

a. Curriculum Development

Curriculum development is one of the main challenges which geography education is facing at this moment in Pakistan. The independent position of Geography should be restore and the whole courses from school to college level be revised according to modern trends.

Whalley at al. (2002) outlined a set of 'Knowledge' and 'Skills or Attributes' required for under graduate degree, suggests that, sustainability is the greatest force for change in terms of geography's curricula. He is of the view that the challenges of the 21st century cannot be met by disciplinary thinking alone. Rather, there needs to be a more integrative approach to knowledge creation, and while Geography is characterized by diversity, we need to ensure that our curricula reflect and explore this. It may well be that geography's own sustainability depends upon the development of curricula that meld geography with other subject areas in the creation of a subject responsive to the needs of the 21st century. He further explained that Geography curricula, need to be able to respond to the experiential nature of knowing, and embed participatory and community-based knowledge acquisition, in order to develop students' awareness of their own complicity in the creation and transformation of difference and diversity(Butlin, 1999).Thus, curriculum should have been arranged and designed to incorporate the two sets of facts, knowledge and skills. The specific facts should be studied with detailed examples at different scales, including local, regional, national, and international scale. There should be focus on examples from Pakistan than as compare to the rest of the world. The skills should include being able to use atlas, map reading, interpreting photographs, graphs and diagrams. These skills should be taught in such a way that the pupils are able to apply them in a field study project of their own areas. The curriculum must be revised completely and the material design in such a way that geography should take its applied role in the national construction and development. The applied aspects of the subject must emerge to make it fulfill the national needs. Similarly the application of remote sensing and GIS must be included in the curriculum.

b. Status of Geography

In Pakistan, geography considered as the least important subject in comparison with other subjects, for adopting as professional career. There is a general stereotype exist in the young people that instead of geography other frontline subjects like chemistry, physics, biology, engineering, economics, and business are more favorable for them in attaining professional success. There is an impression shared by the university teachers that geography is chosen by those students who had fail to get admission in frontline subjects. Scope of geography in this way just limited to school teaching or to the survey departments of the country. Thus, such approach exploits the image of geography as an applied field of inquiry.

In addition to this, lack of jobs for geography graduates is another big challenge for this subject. It is observed that most of the geography graduates start to look either for their own private business or for jobs in private firms which have no relation with their subject but can give them better income.

Another indication of the low status of the subject can be determined by the fact that geography is now being taught by just few universities of the country, while none of the private university offer a course of geography which shows that there is no market for these courses and consequently, nobody wishes to pay for this type of education. Therefore, high priority should be placed on increasing professional interaction between geographers and people in other sciences. A specific effort should be made to identify and address disparities between the growing demands on geography as a subject and the current capabilities of geography to respond as a scientific discipline. Moreover, there should be good jobs for people specialized in geography.

c. Effective Teaching and Learning Geography

Generally the teaching method use to teach geography in schools and colleges of Pakistan is the lecture method with traditional approach that "teacher to talk, students to listen; teacher to write and students to copy". Such practice is reducing the productive teaching and learning outcomes from geography. One of the major causes of this condition is the lack of proper training to the teachers who are ignorant of the principles of effective teaching geography. Thus to overcome this problem, geography at schools must be

taught by teachers who are geography graduate. Refresher courses for geography teachers working in schools and colleges should be arranged on regular basis. Similarly advance teaching skills must be practice at universities too. Teachers must be encouraged to consider teaching as technical rather than as an intellectual activity. Moreover, University and college administrators should implement reward structures for academic geographers to encourage, recognize, and reinforce certain categories of professional activity that are sometimes undervalue.

d. Resources Deficiency

Material resource deficiency is one of the main challenges for the development of Geography education. Schools and colleges have not any class room specially design for geography education. College teacher have no proper access to computers, maps, topographical sheets etc. Geography departments of universities also face the same problem as Higher Education Commission of Pakistan allocate budget to certain disciplines on the basis of the student enrolled and the market value of that discipline, which geography failed to get at all. Such condition of deficit resources has two major impacts; first, there is not enough money for equipment and other materials resources necessary for effective learning and teaching geography. Secondly the most important part of geography education, the study tours or field trips are being ignored. Hence it is suggested that necessary teaching aids including wall maps for class room teaching should be provided to all schools and colleges. Maps should be produced and the provincial text boards should be assigned the task of producing maps and works atlases. Geography departments at universities should be allocated special funds for updating of existing laboratories and for establishing new ones, including;

- Geographical Information System (GIS) Laboratory
- Remote Sensing (RS) Laboratory
- Geomorphological and Environmental Laboratory
- Soil Laboratory
- Meteorological observatory/lab
- Computer based cartography and surveying laboratory
- Field tours
- Furthermore, special funds should be granted so that national and international workshop and conferences would have been conducted in universities.

e. Research Journals/Associations

Keeping in view the overall condition of Geography education in Pakistan, it's hard to expect the advance research work. At present two associations are active, namely; All Pakistan Geographical Association (PGA-1948) and Karachi Geographers Association (1957), in spite of their long history these associations also failed to promote geography is a strong applied context. On national level, three research journals are also published, Pakistan Journal of Geography, Pakistan Geographical Review and Journal Geographic published. Though these journals are providing a platform to geographers for the publications of their research but still not meeting the requirement and unfortunately these journals are not published regularly. Therefore, many research articles of Pakistani Geographers are not published in time. In addition to this geography teachers do not get any international exposure in terms of research and interaction. Thus to overcome such challenges, the HEC should sponsor the publication of such journals under the aegis of Pakistan Geographical Association. Moreover it should establish a national institute of Geography to promote advance training and research in Geography in Pakistan, or a centre of Excellence in applied Geography in any university of the country for the study of current issues like Climatic Change/Global warming, Disaster Management, Environmental Impact Assessment (EIA), GIS and Remote Sensing. International linkages should be developed and strengthen through projects and interaction with the geographers of developed countries.

Though there are many challenges which presently geography education is facing in Pakistan, but keeping the hope alive all the geographers of the country are very optimistic toward its future. One of the reasons is the future mission of HEC for geography, which it purposed in the recent meeting of NCRC, 2009.

- To develop international standard Geography curriculum for 4 year BS and 2 year MS so that the uniformity could be adopted by the public and private sector institutions throughout the country.
- To impart current knowledge and practical skills to geography graduates through theory, practical and field exercises.

- To make geography an integral part of education at all levels to enhance the quality of geographical education for broader application and implementations in all walks of life.
- To make Geography effective for the enhancement of quality of environment and well being of humanity.
- To introduce new applied fields of geography that can fulfill the requirements of the modern world.
- To make geographic research effective in our daily lives.
- To broaden the geographic research areas and to effectively integrate it with national planning and development.
- To create insight appreciating current world affairs based on modern geographic arena.

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