Professional Development Needs of Manpower in Education in India

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Abstract: This paper presents a brief description of the changing professional development needs of manpower in education in India. Besides presenting a bird's eye-view of the gigantic education system in the country including recent developments, the paper identifies two types of professional requirements of manpower: training of teachers, and training of educational planners and administrators. The role of the existing public institutions, non-governmental organisations and of networking at national, regional and global levels in meeting the challenging demands is briefly described.

1. Education System in India

India is the second most populated country in the world after China, with an estimated population of about 110 million, accounting for 17 per cent of the world population. Geographically, the population has spread over 3.3 million sq km in 35 states and union territories. States and union territories are sub-divided for administrative purposes into districts and districts into blocks/*tehsils*/*mandals*. In all, there are 626 districts and more than 600 thousand villages in the country.

Education, according to the Constitution, as amended in 1976, is a 'concurrent subject', with both the central and the state governments having significant powers with respect to policy formulation, administration and financing. On the whole, most of the school education comes under the purview of the state government, though there are a few schools directly run by the central government. Responsibilities with respect to higher education are also shared by the central and state government.

There has been spectacular growth in the education system in the post-independent period. About two-thirds of the population are literate; this also means that about one-third of the population is still illiterate. Today India has one of the largest educational edifices in the world, with more than one-fifth of her total population being engaged in the pursuit of education. The student number of 237 million is higher than the total population of many countries of the world. It has a network of about 780 thousand primary schools, 300 thousand upper primary (middle) schools, 170 thousand secondary schools, 26,000 colleges, and 500 universities (including institutions deemed to be universities). The student enrollment is to the order of 190 million at primary and upper primary levels, in secondary education it is another 40 million, and in higher education about 14 million.

The figures about teacher population in India are also awesome: 2.3 million teachers work in primary schools; and another 1.7 million teachers work in upper primary schools and 2.3 million in secondary schools (2006-07). More than 90 per cent of the teachers are trained teachers. They must have received formal pre-service training. The teachers in the higher education system also constitute a large number: more than half a million. In all there are about six million teachers at all levels of education.

According to official statistics, primary education is nearly accessible to all eligible children. The enrolment ratio in upper primary education is also reasonably high. The net enrolment ratio is above 90 per cent in elementary -- primary plus upper primary levels of education. Secondary education is accessible to a majority of the eligible students, with an enrolment ratio of above 40 per cent. The 14 million students enrolled in higher education constitute an enrolment ratio of about 12 per cent of the population of the relevant (17-23) age group. Thus the education system in India is a gigantic edifice, spreading both horizontally and vertically.

However, *inter alia*, the low quality of education, reflected in high dropout rates, low achievement scores, high failure rates at the end of the secondary education, and mismatches with the labour market has been a source of concern for educational planners. To provide a reasonable level for minimum infrastructure facilities and teacher resources in all primary and upper primary schools, an operation blackboard scheme was launched during the seventh five year plan (1985-90) as resolved in the *National Policy on Education 1986* (Government of India, 1986). The programme was continued and expanded to cover upper primary schools. In addition, efforts are being made to improve the effectiveness of schools through a variety of measures including the training of teachers and administrators in education.

One of the important developments in education in India in the first decade of the 21st century has been the launching of a national time-bounded programme of the universalisation of elementary education, known as Sarva Shiksha Abhiyan (SSA), literally meaning the movement of Education For All. The programme was launched in 2002, which was preceded by the District Primary Education Programme (DPEP) funded by the World Bank and other external aid organisations. Further, elementary education was made a fundamental right in the Constitution of India (2002) and the Right to Free and Compulsory Education was enacted in 2009. The DPEP, now SSA and more importantly the Right to Education Act – all include heavy investment in elementary education. Further, efforts are being made to launch a programme similar to SSA in the case of secondary education. Major expansion of higher education is also initiated during the eleventh and twelfth five year plans (2007-12 and 2012-17). As Psacharopoulos (1984) observed, with a major investment activity of this kind and magnitude envisaged, it is necessary that the training needs of its manpower are carefully assessed. Under the conditions of changing economic policies in a major way towards globalisation , an assessment of training and retraining needs becomes very important in general (Lucas, 1994; Singh, 1994), and in education in particular. With the launching of the new programmes in India, professional development needs of manpower in the education sector undergo a very significant change in a variety of ways and the needs have to be assessed. According to crude estimates, elementary education alone will

require 1.2 million additionally trained teachers in the next six months for the implementation of the Right to Free and Compulsory Education Act. Universalisation of secondary education would also require a large number of qualified additional teachers. Severe faculty shortage is already felt in higher education as well. Something like 34 per cent of the teaching positions in central universities in India are lying vacant, partly for want of qualified quality faculty; a higher proportion needs to be filled in state universities and colleges. The paucity of qualified faculty is felt even more in professional and technical institutions of higher education. With the increasing numbers of students in engineering colleges, these colleges are facing a faculty shortage to the extent of about 67 per cent.

Even though decentralisation of planning in education has been an issue of interest to many for a long time ever since independence, few significant exercises in planning education at decentralised levels were attempted until the mid-1908s.[1] Now with the launching of DPEP and later SSA, of course, it became a standard strategy of development planning, specifically including educational planning and management. Now decentralised, particularly district and micro level planning in education has become an all-pervasive activity in education. Training of educational personnel at sub-national levels – state, district, block and even village levels, including training for strengthening research capacities, is one of the important instruments through which these two objectives are envisaged to be met.

2. Professional Development Needs of Educational Personnel and the Institutional Structure

If one were to identify the training needs of educational personnel in India, two distinct strands emerge clearly: training needs of the teachers, and training needs of the educational planners and administrators.

Teacher Training

First, training of teachers. Teachers are one of the most influential people in one's life as it is only teachers only who guide us and mentor young children on numerous things and it is teachers who introduce children to various subjects and develop their interest in these subjects. After all, teachers are considered "shapers of great human beings." Teacher education and training has been consistently emphasized in policy documents in India for a long time and today a majority of the teachers, above 90 per cent, in schools are fairly well qualified in terms of training. Teacher training is imparted in India at two levels: teacher training schools that provide training to higher secondary school completers (certificate courses) and teacher training colleges that provide (degree level) training to graduates (D.Ed., B.Ed., and M.Ed.). In 2006-07, there were 2,572 teacher training schools and 1,669 teacher training colleges in India with an enrolment of 245 thousand at the college level, and 160 thousand at the school level. Mostly these

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1   The few studies include, for example, Gadgil (1956), Tilak and Varghese (1985) and Tilak (1992).

institutions provide pre-service training of nine months or longer in duration. In a majority of the states, successful completion of Certificate/Degree level teacher training is required for a person to be recruited to the post of teacher in government and government-aided private primary schools. However, in private institutions (unrecognised and/or not financed by the government) this has not been the case. With the recent enactment of the Right to Free and Compulsory Education Act in 2009, all primary and upper primary schools need to obtain formal recognition by the government and should have teachers whose academic and training qualifications match with the government prescribed ones. To teach in secondary schools, one must have graduated from a college of education, normally known as Bachelor of Education (B.Ed.) colleges. B.Ed Colleges offer the students courses on the principles and philosophy of teaching. A B.Ed. degree is mandatory for all individuals wanting to carve out a career in the field of teaching. To enroll in the B.Ed course, one needs to be a graduate in any discipline, within Science or Arts and Humanities. Courses offered by B.Ed. Colleges open up a new horizon for the individuals and offer scientific methods of solving issues related to academics and otherwise of children.

Further, *inter alia*, use of modern educational technology in classroom practices, has become an important area recently in which the training of teachers is viewed as critical. The new educational technology in classrooms includes audio and video equipment, including tape recorders, television, video cassettes, video cameras, video camera recorders, slides, projectors, computers, internet, etc. Use of some such equipment on a large scale has been of very recent origin, though use of some of these materials is not altogether new. Further, use of these materials not only in conventional formal schools, but also in open schooling systems has been on the increase. ICT in schools is being planned as a major scheme. All this is in addition to the increasing training needs of teachers to continuously upgrade their knowledge and skills.

An important initiative in this direction was the Scheme for Restructuring and the Reorganization of Teacher Education. The most important feature of this scheme for elementary education was the establishment of District Institutes of Education and Training (DIETs). The DIETs, an outcome of the *National Policy on Education 1986*, have been created in a large number of districts, which provide in-service training to teachers, including head teachers (principals). DIETs were envisaged as institutions which would provide academic and resource support to institutions at the grassroots. Till this scheme was made operational, academic and resource support for elementary education was provided only at the national and state level with elementary teacher training colleges providing pre-service training to teachers. Through DIETs, academic support was sought to be extended to the district level. In recent years, the teacher support structure was extended still further and grassroots resource centres at sub-district levels were established and teacher training was carried out on a very large scale.

By 2001, though 461 DIETs had been set up across the country, they had not become the pace-setting institutions that they were envisaged to be and had addressed the role envisaged for them in a very limited way. By and large, the institutes were involved with pre-service and some in-service training of teachers and not the other activities envisaged such as development of curriculum and teaching-learning materials. Moreover, even the training provided by the

institutes tended to ignore ground realities. Further, the Working Group Report for the Tenth Five Year Plan noted that the development of DIETs across different states had been uneven, and the southern states had developed these institutions better than the northern and eastern states (Sharma and Ramachandran 2009).

Besides, Regional Colleges of Education (RECs) also known as Regional Institutes of Education (RIEs), Departments of Education in universities, State Institutes of Education (SIEs) and other institutions offer short term in-service training to teachers.

In higher education, first, there is no formal training required to become a teacher. The minimum qualifications for a teacher in higher education is a Master's Degree in the concerned subject, in a majority of cases, supplemented by a research degree (M.Phil or Ph.D.). In order to ensure national standards of the teachers in higher education throughout the country, teachers in higher education are recruited on the basis of a national eligibility test (NET) conducted by the University Grants Commission (UGC). Similar eligibility tests at the state level, namely the "state level eligibility test," conducted by the state government were introduced to ensure minimum uniform quality of teachers in higher education. Teachers in higher education do not receive any pre-service training or even any substantial in-service training, unlike primary and secondary school teachers in India. In one of the most recent developments, in 2006, the NET as a minimum eligibility condition for the recruitment of teachers, had been abolished with a view to ease the problem of teacher shortages in many areas. NET was relaxed for teachers who possess research degrees (doctoral and pre-doctoral). However, soon after that, it was found that the eligibility condition was too important to grant any exemptions. It has now been fully reinstated.

The National Council for Teacher Education (NCTE), in collaboration with the UGC and All-India Council for Technical Education (AICTE), is expected to ensure recruitment of properly qualified teachers in higher education institutions. The UGC sets guidelines for deciding the workload of every teacher and determining the number of teachers to be appointed in a given university/college. Teachers in higher education are also ensured promotions under the career advancement scheme, earlier known as the merit promotion scheme of the UGC, from the post of lecturer (assistant professor) to senior lecturer to reader (associate professor) and finally to professor, if they complete a minimum number of years of service at the given level and if their performance is satisfactory. Since this is subject to fulfillment of a bare minimum level of performance in teaching and research, it is widely feared that the scheme could be counterproductive and would adversely affect the motivation of teachers to excel in their work. Nonetheless, the scheme has come to stay, as its withdrawal will incur the wrath of the teachers' unions. The recent pay revision committee of the UGC (2008) recommended its continuation, but with a few additional qualifications.

Academic Staff Colleges were established after 1986 in many universities, which provide periodic in-service training to college teachers in several subjects. Presently there are about 65 such colleges. They organize orientation courses and refresher programmes for college teachers in different subjects to train and update the knowledge of teachers. Additionally, many departments in universities provide refresher courses.

Training of Educational Planners and Administrators

There are very few institutions in India that fulfill the training needs of educational planners and administrators. At the national level, the National University of Educational Planning and Administration (NUEPA), earlier known as the National Institute of Educational Planning and Administration (NIEPA) caters to the needs of a wide variety of educational planners and administrators (see Tilak 2010). The administrators and planners who take training at NUEPA include a wide spectrum, starting from heads of schools (principals/headmasters) to civil servants at the central and state level (Secretary, Additional Secretary, Joint Secretary, Director, Joint Director, etc.). They also include principals of colleges, Registrars, Finance/Budget officers in universities, officers at the district level, such as district education officers, faculty in the District Institutes of Education and Training (DIETs), State Councils of Educational Research and Training (SCERTs), State Institutes of Education (SIEs), State Institutes of Educational Management and Training, planning officers and education officers in government departments at all levels—block, district, state and central. The NUEPA also offers a six-month diploma course to educational planers and administrators (in service) in India. A similar diploma course is also offered to educational planners and administrators in developing countries. Special training programmes are also organised for educational personnel in SAARC (South Asian Association for Regional Cooperation) countries and other developing countries in general. In all, NUEPA's training courses cover areas such as educational planning, (including micro planning, school mapping, decentralised planning, institutional planning, etc.), educational policy formulation, financing of education, (including cost of education and financial management), and educational administration and management – at the school and college/university level. The courses also cover a wide variety of issues relating to equity, quality and quantity. Some special issues covered in the training courses include tribal education, gender issues in education, education in hilly areas, computer applications in education, etc. But mostly the clientele of NUEPA includes planners and administrators in public sector education and those in government-aided private schools and colleges, but generally does not include personnel from the purely private sector.

Keeping in view the rapidly changing needs of educational planners and administrators, and realizing the limitations of a small institution like NUEPA to serve the professional development needs of the whole education system in the vast country, in the recent past, there has been a move to establish at state level more State Institutes of Educational Management and Training (SIEMAT)s. A SIEMAT was established in Uttar Pradesh (Allahabad), in Thiruvannanthapuram (Kerala), Patna (Bihar), Aurangabad (Maharashtra) and in a few other states; and efforts are on to establish similar institutions in a few other states. Such institutions are expected to fulfill the professional development needs of educational planners and administrators in these states. Essentially, their functions include (i) organization of training programmes and workshops for educational planners and administrators in the state, (ii) conducting and facilitating of research and evaluation, (iii) creation of a database to monitor activities, (iv) assessment of learner achievement, and (v) extension and dissemination of information (Varghese, 1994a). It is

planned that these institutions also receive, at least in the initial years, professional and technical support from NIEPA and organisations such as the National Council of Educational Research and Training (NCERT).

The need to build the capacity of local level manpower in education departments in the government was felt for a long time in the general context of decentralised planning in education. As already mentioned, keeping within the same view, the NUEPA has been offering, *inter alia*, a diploma programme largely meant for district level education officers. Now with the adoption of decentralized planning, the need for developing planning competency at the district level is being increasingly felt, particularly in the areas of project formulation, project implementation and project monitoring, cost of educational projects, programmes and plans, micro planning, school mapping, coordination with other departments, dealing with new bodies like the Panchayats and village level bodies, accounting, computer applications, performance evaluation and negotiating skills, among others.

The specific needs of local level manpower at the district and lower levels in the general context and in the specific context of decentralized planning can be listed as follows (see Varghese, 1994a):

a) *Training needs of District Education Officers/Planners*
    i)   micro planning and prioritization of local needs
    ii) cost of educational projects, programmes and plans
    iii) coordination and linkages with other departments
    iv) enabling of a participatory process of planning
    v)   dealing with elected bodies
    vi) rationalization of accounting practices
    vii) skill development regarding computer applications
    viii) planning for teacher training
    ix) using research for decision making
    x)   monitoring, including proper selection of appropriate performance indicators for monitoring
    xi) development of negotiating skills

b) *Training needs of school supervisors (Assistant Education Officers, Inspectors of Schools, Deputy/Assistant Inspectors, etc.)*
    i)   periodic training in general administration and supervision
    ii) up-gradation of knowledge in given subjects
    iii) skill development regarding computer applications
    iv) monitoring, including proper selection of appropriate performance indicators for supervision and monitoring

c) *Training needs of heads of institutions (Headmasters/principals)*
    i)   improvement of efficiency in general administration

ii)   institutional planning

iii) planning for acquisition of equipment and aids

iv)   Use of modern methods of educational technology

v)   preparation of school budgets and costing of programmes

vi)   Accounting methods

vii) monitoring of school activities

viii) dealing with members of Panchayat and Village Education Committees

ix)   establishment of linkages between school and community

It is envisaged that in the long run most of the training needs for professional manpower in education in the states will be taken care of by SIEMATs, the faculty of which are trained by national level institutions like NUEPA and NCERT; and the development needs of supervisors and headmasters are fulfilled largely by the DIETs, the faculty of which in turn are trained by SIEMATs.

3. Capacity Building in Research

Another distinct area in which capacity building is important relates to education research and its utilisation in planning, decision making and policy formulation. Unfortunately until now, research and policy planning are treated generally as two separate areas for different reasons. But as most people agree, ideally one should support the other; and in some cases one may indeed be dependent on the other. The critical need for education research is being strongly felt, with a series of research studies – general, policy-relevant and evaluative, to be conducted to strengthen planning, financing and decision making in education. Particularly studies on achievement levels, gender studies, studies on tribal education, studies on the financing of education, studies on textbook production and distribution and management information systems are stressed almost every place where the SSA is launched. In the case of studies on achievement levels, areas where strengthening of research capacities are required include specifically developing appropriate educational tests that would reflect achievement levels of students and to design school based sample surveys. In the initial phase of DPEP most of these studies were conducted by the faculty of national level resource institutions, particularly the NUEPA and the NCERT. But in a decentralised framework, it is felt that the needed research is better conducted by regional and local institutions. Hence efforts have to be made towards capacity building at the state and district level in research in planning, policy analysis and assessment.

With the proper orientation of planners, administrators and policy makers to research on the one hand, and on the other encouraging research that has policy relevance, the gap between research and policy can be bridged. The very attitude of planners and policy makers to research may have to be changed.   Secondly, policy planners themselves may conduct research, particularly policy analysis and research on implementation; and thirdly, new institutions like SIEMATs, DIETs etc., besides other research institutions and universities, may be given

sufficient support to develop and strengthen research skills and to initiate and design relevant research programmes.

4. Role of Non-Governmental Organisations (NGOs)

In this overall context, what is the role of non-governmental organisations -- national and international? To start with, there are at least three types of NGOs: NGOs that work exclusively on education, those that concentrate on development including education, and those that work on some development aspects excluding education. Undoubtedly the former two types of NGOs play an important role in the sphere of school education in India. It appears that those NGOs that view education as an integral part of development activities deliver education better than those who devote their attention exclusively to education, or those who treat education as yet another sector of operation, but not an integral part of overall development activities. Particularly integrated approaches to education, health, nutrition, etc., have an edge over others. Further, community based programmes and working with families obviously result in a higher success rate. An important strength of NGOs is their potential to be based in a given cultural context, compared to governmental departments that plan for uniform approaches on a large scale.

Specifically in the case of education, a distinction also has to be made between formal private education institutions and non-governmental organisations. Often the distinction is blurred. Many voluntary or non-governmental organisations that have established and run private education institutions -- schools and colleges -- in the recent past end up mostly as business organisations doing educational business lacking the genuine spirit of volunteerism and service to community, the two essential characteristics of successful NGOs.

If we confine our study to normal non-governmental organisations, a few points are clear. Quantitatively, their role is severely restricted to an insignificant number. Respectable major non-governmental organisations working in the areas of formal, non-formal and adult education are very few. International non-governmental organisations are fewer and among them, the Aga Khan Foundation, ACTIONAID, etc figure prominently. Most of the national non-governmental organizations depend upon state funds -- some critically and some not so critically. They are confined to isolated experiments in a few selected areas. While such experiments might encourage innovations, their replicability or multiplicity on a large scale is generally not possible. Nevertheless, NGOs play an important role in generating new ideas and to build model institutions. Apart from long term activities of adopting and developing a few selected schools and villages, several non-governmental organisations run short duration seminars/workshops with teachers and educational planners and administrators to generate new ideas, to conduct innovative experiments, etc. They also offer short term training programmes to diffuse new ideas, besides conducting small scale experiments to test the feasibility of new models, to demonstrate their feasibility and thereby force the government and other schools to adopt tested new models.

5. National and International Collaboration/Networking

Of late the need for networking of institutions specializing in educational research and training is being clearly felt, as research takes place in a number of institutions, departments of education and departments of other social sciences in universities, and as training has also been an important activity of an increasing number of institutions in India. It is hoped that national and regional networking of institutions could effectively harness the capacity-building potential available therein and help in creating synergy between several institutions in order to reinforce their capacitates to respond to the growing and increasingly diversified needs for skill development in educational planning and management (NIEPA, 1995; IIEP-NIEPA, 1996).

While the networking of educational institutions as a concept of modern planning and management is of relatively recent origin, some sort of collaboration does exit between some institutions both in the context of research and planning in education. While there are several social science institutions in India where research takes place in the area of education, education is not a dominant area of priority in many social science institutions. On the other hand, there are a few specialized institutions totally devoted to research on and planning for educational issues. Apart from the NUEPA and NCERT, important institutions working in the area include the Indian Institute of Education in Pune (Maharashtra).

Similarly there are Departments of Education and Departments in social sciences in several universities where research in areas relating to education is conducted. Prominent Departments of Education include those in the University of Delhi, University of Baroda (Gujarat), and Jamia Millia Islamia (New Delhi). In addition, Departments of Education in a good number of universities are given the status of being a centre for advanced studies in education (CASE). They conduct specialized research in education and are also involved in training. Though the present level of collaboration between these several institutions is not at a significant level, there is a potential mutual benefit if sustainable collaborative arrangements are worked out that will enable the sharing of information, sharing of faculty and collaboration in research and training activities.

Formal networking of institutions -- at the national, regional at SAARC and /or the Asian region level, and at a wider global level -- becomes critically important in the increasingly globalised world, as learning from others' experiences provide opportunities for avoiding the mistakes others have already commmitted, and in building up from the level at which others have successfully experimented. In addition, economies of scale could be reaped by developing effective networking mechanisms.

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